

MANUFACTURERS RECORD

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BALTIMORE, DECEMBER 7, 1916

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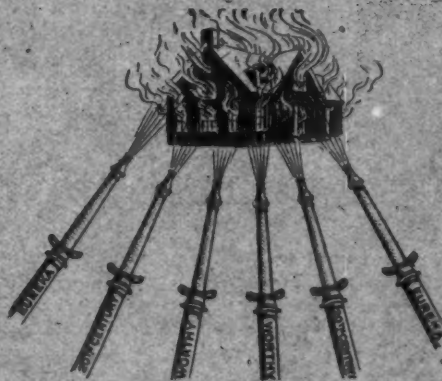
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MANUFACTURERS RECORD

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AN EXCHANGE OF PRESENTS.

GENEVA, SWITZERLAND, November 28. — Emperor William will send to President Wilson as a Christmas present a de luxe set of American authors specially prepared, printed and bound at the Royal Printing Works in Berlin, according to the Budapest newspaper *Az Est*. The German submarine *Deutschland*, the newspaper says, will carry the gift to the United States on her next trip across the Atlantic.—Press Dispatch.

If President Wilson accepts a present from the murderer of American citizens, would it not be a good idea for him, in return, to send to Emperor William a bound volume of clippings from American papers voicing the sentiment of this country against the red-handed murderers who fed to the sharks the bodies of the innocent Americans, men, women and children, who were sunk with the *Lusitania*? Perhaps Emperor William needs the enlightenment such clippings would give him.

"DRUNK WITH UNEARNED PROSPERITY."

AS a nation we have permitted ourselves to become accustomed to the horrors of Europe's war; our sympathies are not alive as they were at first; our resentment against murder and all of the other unspeakable outrages which have made the barbarism of this war on the part of Germany and its allies one of the foulest blots on human history is no longer stirred as it was in the early days before we were taught to be neutral in thought as in act. Our moral tone has been lessened. We have become, as the Iron Age recently expressed it, "drunk with unearned prosperity," and we are thinking more of our immediate prosperity and our opportunity to make money than we are thinking of the suffering of the people of Europe and of the struggle of democracy against autocracy, which in the final analysis is the basis of Europe's fight. We stand absorbed in our money-making schemes, and are unwilling to risk anything for the saving of the world's civilization.

If Germany were to succeed in overrunning civilization, our fate would be exactly the same as Belgium's and Americans would be driven into slavery as are the Belgians now. We could not in the next ten years put ourselves in position to prevent being overpowered by Germany if she had conquered Europe. We talk about our new battleships as though they made us safe, but it will be three to four years before those now being contracted for will be ready to defend us.

Will our country ever wake up to our situation, to our dangers and to our supineness in the face of the awful destruction in Europe by the greatest outrageous attack upon civilization ever known in the world's history?

The World Faces Unparalleled Condition with Consumption Running Ahead of Production.

The world is eager to consume more than the world is at present able to produce.

There is more demand for iron and steel than all the iron and steel plants in existence can turn out.

There is more demand for foodstuffs than the farmers of this and other countries are, at the present time, able to supply.

There is more demand for copper than all the copper mines of the world have been able to yield.

There is more demand for cotton than the South this year grew, even when to this year's crop there was added the surplus brought over from preceding years.

Under such conditions, with the world eagerly scrambling for larger quantities of foodstuffs, of cotton, of iron and steel and copper than the existing facilities of the world can turn out, we are necessarily facing a steadily rising market for all of these things.

Somewhere between 30,000,000 and 40,000,000 men in Europe have been taken away from avenues of production and made consumers of foodstuffs and of clothing. They are on the battlefields of all Europe and in training camps. The conditions under which they are living and the waste connected with feeding and clothing them probably require at least double the amount of foodstuffs and of clothing which would be needed for them under ordinary peace conditions. Therefore, to all intents and purposes there has been a sudden increase in consumptive demand for 60,000,000 to 80,000,000 people.

The 30,000,000 to 40,000,000 people in actual warfare have been taken out of productive work. Moreover, millions of others have been put into munition factories to produce the things needed on the battlefields for the maintenance of life on the one side and for the destruction of life on the other.

These 30,000,000 to 40,000,000 soldiers are day and night engaged to the utmost extent of their ability in using up explosives and iron and steel. The mighty guns with which they are battering at each others' trenches rapidly deteriorate. The millions of shells, large and small, with which the battlefields of Europe are being torn and harried as never before in the history of the world necessarily mean an insatiable demand for iron and steel and copper and for cotton and other materials for explosives.

At the time of the census report of 1910 the total number of males in the United States engaged in gainful occupations, counting all ten years of age and over who were at work, was 30,091,000. There were also 8,075,000 females, or a grand total for the country of 38,167,000. In Europe the number of soldiers under arms or being trained is about equal to this total number of people employed in every kind of gainful occupation—men, women and children—in the United States in 1910.

If we take the larger occupations, such as agricul-

ture and manufactures and railroads, the list is as follows:

Agriculture, forestry and animal industry.....	12,659,200
In mining and similar operations.....	964,824
In manufacturing of all kinds.....	10,658,881
In transportation, water and rail.....	2,637,671
	26,920,579

Thus the total in these producing industries of the United States—agriculture, mining and manufacturing and in transportation—amounted to 26,920,579, or less by 10,000,000 to 15,000,000 than the number of soldiers engaged in Europe's life-and-death struggle.

It is only by such comparisons as these that we can get a faint conception of what it has meant in increased consumptive demand for Europe to have turned so large a proportion of the most able-bodied men into the struggle of war. These men are engaged in a work of destruction. Their strenuous activities compel them to wear out more clothes than under ordinary conditions, and to consume more food, and connected with every line of industry and transportation there are millions of men and women engaged in furnishing supplies to the soldiers who are doing the actual fighting. From one end of Europe to another there is an unbroken strain of the fearful crash of the mighty guns as their roar is heard on the far-flung battlefields along thousands of miles.

The world is thus facing a condition for which there is no precedent. Nothing in human history touches the conditions now prevailing. We have no light of past experience to guide our feet as the world treads the dark road of this terrific struggle.

We only know that the Allies are fighting the world's battle of civilization, and we know that there is no likelihood of any let-up in the terrific contest until they have saved the democracy and the civilization of the world, whether they have to continue the fight for one, two or five years more. So long as the fight lasts Europe must draw upon the resources of the world for foodstuffs, for iron and steel and explosives and cotton, and for a thousand and one other things which enter into the maintenance of war.

Under these circumstances it becomes a prime necessity for this country to increase its supply of foodstuffs to the largest extent possible, recognizing that there is no probability of any materially lower prices than we now have for some years to come.

Many wild, uneconomic theories have been advanced as to how to bring about lower prices of foodstuffs. Just now it happens that the cold-storage industry is denounced as being responsible for high prices, when, as a matter of fact, if we had no cold-storage business we would have chaos in the food supply of the country. Without cold storage, eggs, for instance, would in summer time, when the hens are busy at their work, go a-begging at probably 10 or 15 or 20 cents a dozen, and in winter, when hens go on a strike, there would be no eggs to be had at

any price. The cold-storage system is merely the governor on the steam engine of supply and demand—a means for keeping things running on a basis of safety. That the system may sometimes be abused in no way whatever lessens the economic importance of cold storage as a great factor in preserving, during periods of abundant supply, food to be available at periods of extreme scarcity.

We shall also have continued agitation in favor of an embargo on foodstuffs. From every point of view this is unwise and uneconomic. If we should by an embargo reduce the price of foodstuffs to any considerable extent, farmers would immediately be discouraged, and instead of increasing their production would decrease it, and we should have a return to high prices without any increase in supply. Compelled to pay much higher prices for farm labor and for supplies than formerly, farmers must get high prices and large crops or else they will abandon agriculture and join the movement toward the cities and to industrial employment.

We are confronting world conditions unlike anything in human experience, and it behooves us to think broadly and be world-wide in our vision.

BRING THE AMERICAN ROAD BUILDERS SOUTH IN 1918.

IT is understood that an effort will be made by the people of Jacksonville to secure the 1918 meeting and road show of the American Road Builders' Association. This is one of the most active and representative road-building associations in the country, and numbers among its membership a great many of the leading highway officials, consulting engineers, contractors and others interested in the construction of modern roads. If this important gathering can be brought to the South in 1918, it will prove of untold value in stimulating interest in modern road building and greatly encourage those who are working toward this end.

Meetings of this association are attended by more of the representative road officials, engineers and contractors and machinery and material men than is any other similar gathering held in the country. The coming of these important interests to the South in 1918, when they will discuss road problems from every angle and exhibit the latest ideas in road machinery and materials, will be of the greatest benefit to the whole South. The South has much to offer the members of this association that will prove of real interest and, in some lines of work, of instructive benefit.

Moreover, it has had many difficult matters to solve in working out its road problems. How these have been met and overcome, and how the South is forging ahead in providing itself with modern roads and streets to meet the present-day traffic needs, are all matters that will be of interest to the members who would attend a Southern meeting.

In recent years the South has been spending on an average of \$50,000,000 a year for the improvement of its roads and streets. As the resulting benefits have become manifest through increased land values, less cost in hauling crops to the market and in greater comfort and convenience in the social as well as the business life of the rural sections of the South, this work is now going forward at an even greater rate, and it is conservatively estimated that the South is providing more funds than ever before for such improvement.

The South, therefore, is ripe for this great road gathering. It has much to offer those who come and much to learn from them. The 1917 meeting will be held in Boston next February; the one last year was in Pittsburgh, and before that in Chicago, so that the South is right in line to make its bid for the 1918 meeting.

If this meeting is to be won for the South, it is important that road-building interests of the South promptly co-operate in presenting their claims to the association.

AN UNJUST CHARGE AGAINST THE SOUTH.

IN a letter addressed to The Lumberman, which has been reprinted in circular form, Mr. Robert Fullerton of Des Moines, Iowa, states that he estimates that there are 25,000,000 acres of cut-over lands in the yellow-pine States of the South idle, unoccupied and producing nothing, and that the owners would gladly dispose of these lands for from \$3 to \$5 an acre. He adds that if it were generally known that these lands were on the bargain counter it would be difficult to make a sale at \$2 an acre, and he raises the question as to why Iowa farm land is readily salable at \$150 to \$250 an acre while this cut-over pine land, capable of growing corn and cotton and all the staple vegetables, is without demand and hardly salable at any price, and then he closes with the following statement:

The contrast between the price of farm products and these cut-over farm lands in our Southern States capable of producing these high-priced products is beyond my understanding. My only explanation is Bourbon civilization.

Mr. Fullerton is evidently among that small number still to be found in some parts of the country who, intentionally or unintentionally, thoroughly misunderstand the South and who refuse to recognize the reasons why Iowa's agricultural development is in advance of that of the South.

When the South came out of the war, absolutely wrecked and ruined, Iowa and other Western States were prospering. They had faced none of the disastrous effects of that fearful struggle. Moreover, for ten years after the war the most corrupt, disreputable political regime that ever cursed this country fastened Reconstruction upon the South, the evils of which can never be fully understood by people who did not then live in that section, and unless they will read some of Tom Dixon's lurid but truthful descriptions of those days, or see the situation typified in the absolutely truthful presentation of the horrors of Reconstruction in the moving-picture panorama, "The Birth of a Nation," they will never comprehend in the slightest degree the conditions which prevailed for ten years after the war. Any man, it matters not what may be his views as to the war, who is not willing to learn as to the actual conditions in the South during the reconstruction period shows his unwillingness to know the truth if the truth does not happen to agree with his own preconceived notions.

The situation of this section up to 1876 was indescribably bad. Utterly bankrupted by the war, with hundreds of thousands of its leading men either dead on the battlefield or made permanent invalids; with negro government dominating many States and held in power by the army of the United States, those who had been slaves having been suddenly made masters; with wild looting of public treasures and unbridled license for evil, the South faced conditions so appalling that the spirit of a less courageous people must have been utterly broken.

These conditions started a movement of population from the South which finally carried 5,000,000 whites from the Central South into other sections—a drain greater in its far-reaching effect on the economic development of the South, as well as on its political and educational development, than the war and reconstruction combined.

For a quarter of a century after the close of the war, when the West was being opened up by the building of transcontinental railroads, many of which had been largely aided by Government bounties, the financial interests of the East and of Europe were united in one of the greatest efforts in history for turning population into the West to make profitable the railroads which had been built by the aid of Government land grants. These financial powers filled all of Europe with glowing descriptions of the possibilities of the West, and the MANUFACTURERS RECORD was years ago advised by a man thoroughly posted on the subject that there was not a hamlet in Europe which was not flooded with immigration maps in which the South was painted in black, with the

statement that it was filled with negroes and wholly unfit, by reason of race conditions and of dangers to health, for any foreigner. The president of a Swedish steamship line some years ago, when asked to co-operate in settling Swedes in the South, made the statement that he would gladly do so, as he now realized the desirability of the South for Scandinavian people, but for the fact that for twenty-five years he had spread broadcast through every hamlet he could reach in Europe statements that the South was an unfit place for foreigners, and that yellow fever and the presence of the negro made it impossible for foreigners to live in that section.

These are some of the things with which the South had to contend. Moreover, both political parties pursued the policy to a very large extent of sacrificing Southern material interests in every tariff bill. When big manufacturing enterprises wanted raw materials which the South produced, they succeeded in getting them put on the free list, though a full measure of protection was allowed on the finished products which the South had to buy. Democrats and Republicans alike followed this policy, and have followed it up to the present day. Thus this section was betrayed in the house of its friends as freely as in olden days it was betrayed in the house of those who were at that time its enemies, with the exception of a few broad-minded Republicans who had patriotism enough to realize the importance of Southern development to national prosperity.

The Republicans were not so much to blame for this policy, because they found a willing response on the part of Southern Congressmen who joined with them in putting raw materials on the free list, as did the Democratic party. Whenever the Democrats got in power they hurried for free raw materials at the expense of their own section, giving to the industries of other sections a club with which to beat down the industrial development of the South. Today there are many raw materials on the free list put there through the demand, hidden sometimes from public view, of large interests who wanted free iron ore and other raw materials used in their plants, and a Democratic Congress, apparently without realizing that it was being "worked" by these interests for their own particular profit, passed a tariff bill which, exactly like that passed under the Cleveland administration, sacrificed the South for the purpose of building up other sections.

Mr. Fullerton has failed to take into consideration all of these points, and, therefore, he takes the ground that the only explanation why there is idle cut-over pine land in the South is "Bourbon civilization." In this Mr. Fullerton displays a Bourbonism as great as any that can be found in the South.

Despite all the disadvantages under which the South is laboring, it produced last year 164,596,000 bushels of wheat, 1,246,945,000 bushels of corn and 205,659,000 bushels of oats, or a total of 1,617,200,000 bushels of wheat, corn and oats out of a total for the United States of 5,606,402,000 bushels.

The entire increase in the grain crop of the United States last year over 1914 was 701,000,000 bushels, and of this 346,000,000 bushels, or 49 per cent., was in the South.

The South has also made material progress in industrial development. Today its manufacturing interests largely exceed in the amount of capital invested and the value of the products the total manufacturing capital and products of the United States in 1880, though the population of the United States at that time was about 15,000,000 more than the population of the South at present. This section is today annually spending on public schools many millions of dollars in excess of the total amount thus expended by the United States in 1880, and notwithstanding the fact that there still are a few people left in this country like Mr. Fullerton, who evidently have some particular personal grudge against the South, and thus seek to misrepresent it, this section is making an amazing progress. That the views of its people politically are, to a large extent, in harmony with the views of a large proportion of the people of the West and the Pacific coast is indicated by the results of the recent election. There are abundant reasons why there is a large amount of uncultivated land in the South, reasons easily understood by any intelligent people who want to do so, other than Mr. Fullerton's sneer at "Bourbon civilization."

\$50,000,000 ADDED TO VALUE OF NORTH CAROLINA LANDS THROUGH DRAINAGE.

A BENEFIT of \$50,000,000 to the State of North Carolina through the reclamation of swamp and overflowed lands, representing an area of approximately 1,000,000 acres, is the interesting announcement made by Dr. Joseph Hyde Pratt at a recent annual convention of the North Carolina Drainage Association. The greater portion of this land was of little, if any, value for agricultural purposes before it was drained. Part of it was bottom lands in the Piedmont section which had been cultivated at one time, but through hillside washings and lack of attention streams were allowed to fill up so that drainage was impossible, and the bottom lands gradually became swamps. The greater portion of the 1,000,000 acres, however, were low lands in the coast country of Eastern North Carolina. The cost of the drainage work varied in the Piedmont section from \$13 to \$25 an acre and in the swamp section from \$4 to \$7 an acre.

Reports made at the convention by individual landowners indicate that in some instances wet and overflowed lands which prior to drainage were not worth a dollar an acre could not be bought in their present dredged state for \$200 an acre. It, therefore, seems an entirely conservative estimate to figure a benefit of \$50,000,000 to the State as the result of all of the various reclamation projects completed to date.

This is an object-lesson of the greatest value to the other States of the South, and especially to those where the area of swamp and overflowed lands is much greater than in the North Carolina at its maximum before drainage operations began. North Carolina does things in a vigorous and whole-hearted way, and in probably nothing ever undertaken by the State heretofore has so important and valuable a lesson been given to the South at large.

Very timely in this connection is the announcement contained in this week's issue of the MANUFACTURERS RECORD of a very large reclamation and drainage project undertaken in Eastern North Carolina by Mark W. Potter, president of the Carolina, Clinchfield & Ohio Railway Co., in association with local interests. With the impetus drainage operations have gained in North Carolina, it should be but a short time until every acre of the rich overflowed lands of the State are being put into shape for prolific crop production.

Of interest to every Southern community where drainage problems confront them is the discussion indulged in at the North Carolina Drainage Convention of steps to strengthen the demand for drainage bonds. A very interesting suggestion was made by Mr. Bruce Craven, an attorney of Trinity, Craven county, North Carolina, to the effect that the county in which bonds are issued should officially vouch for them, thereby making them virtually county bonds, or let the county take up the district bonds and hold them and issue straight county bonds in equal value for them. A great weakness in plans to finance drainage operations throughout the South has been the disinclination of outside investors to take over drainage-district bonds. One reason for this may be found in a suggestion made by Dr. Pratt at the Drainage Convention to the effect that instead of naming the bonds for the drainage district—"Flee Hill" Drainage District, for instance—they should be known as of Cumberland County Drainage District No. 1, as an illustration. It was the consensus of opinion of attorneys and bond buyers who attended the convention that the bond bearing the name of the county would be preferred by purchasers every time over one bearing the name of a mere drainage district.

These are very important suggestions to be given serious consideration by the States in the South interested in drainage plans. It would appear that the suggestion of Mr. Craven to let the county stand behind the project, issuing its own bonds and taking the securities of the drainage district, would be the simplest and best method and the one that would result in securing funds immediately and at the lowest prevailing interest rates.

The North Carolina Drainage Convention was of unusual interest throughout. The discussion of tile

drainage was a matter itself of more than ordinary importance, as will be noted by reference to the report of the convention proceedings printed elsewhere in this issue. The value of tile drainage is indicated by the fact that the first year's profits have been found to more than pay the entire cost of tile drainage.

Another matter of great interest was the statement by Secretary Pratt that the creation of drainage districts means an opportunity for the establishment of wood-pulp mills. In preparing the swamp lands for agricultural purposes large quantities of swamp timber are necessarily thrown on the market in Eastern North Carolina. Probably 90 per cent. of such timber is gum, an excellent material for making wood pulp. Swamp lands which are to be drained would furnish a sufficient supply for a number of years' run, and if meanwhile the State forest-fire law shall have been strictly enforced a crop of pine would soon cover the poorer pine lands of Eastern North Carolina, thus providing a supply of pulp-wood timber for use after the swamp timber has all been cut. Dr. Pratt reported that a number of letters from different parts of the country are being received by the State Geological and Economic Survey of North Carolina, making inquiries as to suitable sites for pulp mills. With forest-fire prevention, he declared that a perpetual supply of pulp-wood timber would become available in from twenty to thirty years, and he pointed out that the owners of swamp lands may, with advantage to themselves and benefit to the community, co-operate in the work of protecting nearby pine lands from fire, so that wood-pulp mills may be induced to locate in North Carolina to utilize the waste wood in connection with drainage operations now and to operate with the pine wood of adjacent cut-over lands hereafter.

BIRMINGHAM LEDGER SHORT ON INFORMATION.

THERE is no doubt that the iron and steel magnates of the country have their eyes on Alabama's matchless metal resources and opportunities for paying development. This is one of their habits. They watched the Tennessee Company as a fox would a hen for years and years, and when the Tennessee Company was flustering around with a wing broken, they got it.—Birmingham Ledger.

In the foregoing statement the Ledger seems to show an entire ignorance as to the conditions which resulted in the purchase of the Tennessee Coal, Iron & Railroad Co. by the United States Steel Corporation. It is well known to every man at all familiar with the history of the Tennessee Company that for years it had been kicked about Wall Street as a football of speculators. Those who controlled it apparently controlled it more for speculative purposes than for legitimate development, and however vigorously some of the officials connected with the company strove to build up the physical development of the property, those who dominated the stock situation used it as a Wall Street gamble.

The "iron and steel magnates of the country" were not watching with any particular interest the Tennessee Company. They could have bought it at almost any time within twenty years prior to 1907 for very much less than the Steel Corporation paid for it. There came a time, however, when John W. Gates, an "iron and steel magnate" of large wealth, and some of his associates, big financiers and "iron and steel magnates," bought this property practically on margin. They paid very little on account of it, and were carrying it through banking houses. When the financial panic came, the chief banking house which had financed the deal by loaning money almost up to the full price paid for the stock was in danger of collapse, and an appeal was made to the Steel Corporation to take over the Tennessee Coal, Iron & Railroad Co. in order to save that banking house and some others from failure, since the Tennessee stock could not at that time be sold in the open market at practically any price because of its bad reputation secured through years of wild manipulation. The Steel Corporation paid for the property a much higher price than it could have bought it for at almost any time from the day it was first organized up to the time when John W. Gates and his crowd of speculators got control of it. Gates offered the presidency to one of the foremost steel men of the coun-

try at a salary double what he was then getting. In reply this gentleman said to Mr. Gates that it would take at least \$30,000,000 to adequately develop the Tennessee property to put it on a paying basis, and added, "I do not think you have any intention of making such a large legitimate expenditure." Gates frankly admitted that he did not propose to spend any such sum, and his offer of a salary, which, as we remember, was \$50,000, was turned down because the man to whom it was made felt that he could not commit his life to what he regarded as a purely speculative operation on the part of Gates and his associates, who had expected to be able to make a big showing and unload on the public at a higher price, but who got caught in the market slump.

Some of the men in that syndicate were financially able to carry their end of the deal, but others could not do so, and it seems that they were all bound up in such a way that it became necessary to sell the control of the company or else permit the big banking house that had been carrying it to go to the wall. These men, we believe, got back all the money that they had put into the property, and while the Steel Corporation made a good investment, it paid a much higher price than it would have had to pay if, as the Ledger suggests, it had been watching as a fox would a hen to pounce upon it when it was in trouble.

These facts have been published so often that it is to be regretted that a Birmingham paper so completely misrepresents the situation.

If the "iron and steel magnates" of the country had been trying to capture the Tennessee Company prior to the time when in 1907 the Steel Corporation bought it, they could easily have done so in the open market without any difficulty at any time during a quarter of a century.

THE TACTLESS ACT OF THE FEDERAL RESERVE BOARD.

THE recent action of the Federal Reserve Board in its public announcement advising banks against investment in the treasury bills of England and France displayed a lack of tact and judgment which it would be difficult to surpass. Even if it were wise for the Reserve Board to take this position, the announcement could have been made in a way to accomplish the results desired if judgment had been used in the method of putting forth the statement without doing injustice to the Allies.

The action of the Reserve Board has been interpreted by a large number of people to mean that the National Government had reason to believe that the Allies would ultimately be defeated and that their securities would be without value. However erroneous this interpretation may be, it has nevertheless been accepted in that light by many people throughout the country, due to the lack of tact in making the announcement. It would hardly be proper for the Reserve Board to come out now and deny that there was any justification for this interpretation, for while the announcement was very unneutral, though coming from a city where we have been taught to be neutral, a second announcement or explanation might be still more unneutral to the other side.

It is an infinite pity that the matter was so bunglingly handled, to the discredit of the Government and of the country.

J. F. DUGGAR, director of the Experiment Station of the Alabama Polytechnic Institute, Auburn, in a letter to the MANUFACTURERS RECORD referring to a recent article by Mr. Courtenay DeKalb on the guayule plant as it is being raised in the Southwest, writes:

The former botanist of the Alabama Experiment Station, Prof. F. E. Lloyd, has completed possibly the most exhaustive study ever made of the guayule plant, doing most of his work in the West, but completing it while at this station. His study led him to the conclusion that guayule is not a commercial possibility under Alabama conditions.

DIVERGENT VIEWS ON WHEN TO DO CONSTRUCTION WORK.

PRESIDENT J. C. MABEN of the Sloss-Sheffield Steel & Iron Co. of Birmingham, replying to an inquiry in regard to a report that his company would build a by-product coke-oven plant, wires the MANUFACTURERS RECORD:

There is nothing new in regard to building of by-product coke-oven plant by our company, as the matter of building has been deferred by the company until prices of material and delivery show improvement. We believe that on account of the high prices of material and slow delivery of materials the present time is inopportune for the constructing of such a large plant.

A similar view was recently expressed in a letter to the MANUFACTURERS RECORD from one of the leading steelmakers of the country, who wrote that if he had at his command \$50,000,000 for the building of a steel plant, he would not make any move at present towards the spending of the money, but would hold it until changed conditions made it possible for him to get twice as much of a plant for the money as he could get now.

The other side of this view was very definitely stated by Charles M. Schwab two weeks ago when at a banquet in Baltimore he announced that his company would spend \$100,000,000 in the enlargement of its three plants, and that one-half of this, or \$50,000,000, would be spent at the Sparrows Point plant near Baltimore. Mr. Schwab clearly stated his view of the desirability of doing this work at present. He took the ground that while some people were inclined to postpone construction work because of high prices and the scarcity of labor, he did not believe that industrial interests should speculate on the future, but that they should go straight ahead with their plans, carrying forward their construction plans in periods of activity as at present, just as they would do at any other time.

On this point Mr. Schwab was emphatic in the expression of his belief that the Bethlehem Company should not delay its work because of high prices of materials, and showing his faith by his works he gave the details in regard to the expenditures to be made by his company at Sparrows Point. Very much of the work outlined by him has been put under contract within the last ten days or two weeks.

The magnitude of the expenditure at that point of \$50,000,000 is difficult to grasp. When the Steel Corporation purchased the Tennessee Coal, Iron & Railroad Co. it began a plan for practically the entire reconstruction of its furnace and its steel plants in the Birmingham district and for opening new ore and coal mines and the building of by-product coke ovens. It is generally understood that upon this work the Steel Corporation has expended in the neighborhood of \$25,000,000 to \$30,000,000. As stated, this has largely been for reconstruction work and the development of additional mining facilities.

The Bethlehem Company, on the contrary, is proposing to spend at Sparrows Point \$50,000,000 on absolutely new construction work. The existing plant is thoroughly modern and up to date. It includes furnaces, steel works, rail mills and a big shipyard. None of the existing work needs to be torn down for reconstruction, and so the entire \$50,000,000 will be spent on absolutely new construction. None of this money has to go into the development of coal or ore properties, and those who are familiar with the magnitude of what has been done by the Steel Corporation at Birmingham can the better appreciate from this comparison the vastly greater work which the Bethlehem Company is doing at Baltimore.

Is Mr. Schwab's view, as one of the world's greatest business creators, correct when he takes the ground that it is not only the duty of his company, but of others to go forward with their construction activities? Or is the view expressed by President Mablen, that this is not the time to do new construction work, but the time to sit down and wait on the future, the proper position for the business men of America to take?

These two views are diametrically opposed. One expresses the optimism and the boundless energy which had given to Schwab his place in world affairs. The other expresses what might be called the pessimistic side of the situation, or rather the ultra-

conservative side, waiting for the future to bring bad times in order to take up at that time construction work or the building of new enterprises. Schwab believes in going ahead, through bad times and good times, and not permitting good times to halt his operations any more than he is halted by bad times.

No man can say how long the present boom in business will last. It may run, as Mr. Schwab predicts, for from three to five years beyond the war before there is any serious let-up. Nor can any man predict as to when the war will end, but the prospects are that it will not end for several years. The concern that goes ahead at present, and out of the profits that are now being made enlarges its plant and improves its facilities by the construction of modern labor-saving methods, may in the next period of depression find that it acted wisely, because it might then save more money than the increased cost of building the plant at present. The Woodward Iron Co. of Birmingham is proceeding on the "go-ahead" plan, and has just let contract for 60 additional by-product coke ovens.

In times of activity some concerns in the Birmingham district have often followed the view expressed by President Mablen, and then in times of depression they have had the "blues" so badly that they could not secure the needed capital for the enlargement of operations, or else lacked the courage to make the investment. The writer well remembers a discussion to which he listened that once took place in a meeting of the board of directors of an Alabama iron company in which the president, during a period of severe depression, strongly urged spending a considerable amount of money for enlarging its operations and reducing the cost of production. A prominent banker, who was a member of the board, vigorously opposed these improvements on the ground that it was not known whether the demand for iron would ever again catch up with the production, and that it was folly to put new money into the enlargement of the plant without any certainty that consumptive requirements for iron would ever again equal the amount that was then being produced. The banker carried his point, but we would like to hear a banker of such narrow views argue with Charles M. Schwab on the same line, though it would be a little cruel to see how rapidly he would diminish in his own view of his knowledge by the time Schwab hit out a few sentences at him.

To a large extent the ultra-conservative financiers are typified in the view expressed by this banker director, while the real constructive, upbuilding forces of the country, who in the long run make the greatest achievements, are, we believe, typified by Mr. Schwab's position.

PROTECTION FOR SOUTHERN ORES NEEDED.

IN a recent issue of the Weekly Progress of Mineral, Va., Mr. W. H. Adams, long identified with the development of pyrites of that section, gives a history of the efforts to secure adequate protection for Southern pyrites as against the imported article. He tells the story of how as far back as 1883, after long experience in pyrites mining operations in Canada, he undertook the development of the Louisa county pyrites, and how the progress of this industry was halted by pyrites being put on the free list under the McKinley tariff bill, and he calls upon the present administration to recognize the importance of a protective tariff on minerals such as pyrites and iron ores, the development of which would enrich the South and thus help to enrich the nation.

We trust that Mr. Adams may be successful in this campaign, but, unfortunately, the Democrats have been as guilty as the Republicans in putting many of the raw materials of the South on the free list. When the Hon. Wm. L. Wilson was made chairman of the Ways and Means Committee which fathered the tariff bill under President Cleveland, he advocated putting coal on the free list, though when the previous Republican administration had proposed this Mr. Wilson went up and down Virginia and West Virginia insisting that free coal would mean the practical destruction of the coal interests of those States and their impoverishment in order to

enrich the coal-consuming factories of New England. Mr. Wilson, however, as chairman of the Ways and Means Committee under President Cleveland, completely reversed his former opposition to free coal and vigorously fought for free coal. Between the time when he had bitterly assailed free coal and the time when he advocated it the Whitneys and their associates had secured control of enormous coal mines in Canada, and free coal would mean a great lessening of the cost of coal to New England consumers and the development of the coal interest of the Whitneys in Nova Scotia at the expense of the coal interests of the South.

This is simply one of the many illustrations which could be given where Southern Democrats have sacrificed their own section apparently without realizing how they were playing into the hands of big interests who wanted to buy raw materials cheap.

SOUTH'S PROSPERITY AS VIEWED IN LONDON.

[London Statist.]

THE outlook in the South in the coming year is very hopeful. The States served have had a prosperous year, and intend to have another, especially as the price of cotton, for reasons into which we need not enter here, has risen considerably. Indeed, the MANUFACTURERS RECORD, a recognized authority upon economic conditions in the Southern States, estimates that during the present crop year the South will receive about \$2,000,000,000 for its cotton and cotton products, a sum hundreds of millions of dollars in excess of any previous year's figure.

Congratulated for Broad Americanism and Common Sense Stand on Economic Questions.

W. J. SCHAEFER, Secretary Russell Hardware Co., McAlester, Okla.

Mr. Capel's letter of November 4, and your reply in your issue of November 16, have attracted the writer's attention. It looks very much as though Mr. Capel has confused the MANUFACTURERS RECORD with "Life," as far as Mr. Daniels is concerned.

I desire to congratulate the MANUFACTURERS RECORD on its broad Americanism and the common-sense stand it has always taken on economic questions peculiarly relating to the South.

Pulpwood Statistics to Be Obtained by Government.

Figures showing the amount of wood used in the United States for making pulp will, it is announced, be obtained by the Forest Service in connection with its 1916 census of the lumber industry. Because of the increasing scarcity of pulpwood in some parts of the country, the need for accurate figures showing the consumption of this class of material is realized by manufacturers and foresters alike, and it is expected that such figures will be made a part of the yearly statistical work of the Forest Service. The pulp manufacturers will co-operate in the work through their trade organization, the Newsprint Manufacturers' Association.

The data collected will comprise detailed information on the following:

Pulpwood consumption in cords by species, subdivided to show quantities of imported and domestic wood used. Comparative figures will be given for 1890, 1900 and 1914.

Number of mills by States, quantity of wood consumed, total cost, average cost per cord, amount of pulp produced.

Consumption of different kinds of pulpwood by States, subdivided to show amounts of domestic and imported spruce and poplar pulpwood.

Consumption of different species and different processes of manufacture.

Consumption by States, showing total amounts used, total cost and average cost per cord, according to condition of wood—rough, peeled and rossed.

The data to be obtained will, it is stated, be of considerable value to pulp manufacturers as well as to the Forest Service. Owing to the comparatively small number of pulp mills in the United States, it is thought it will be possible to issue a report on the work at an early date.

Against Embargo on Foodstuffs

[Leading newspapers of the South, in line with the position taken heretofore by the Manufacturers Record, are outspoken in their opposition to the embargo on foreign shipments of foodstuffs contemplated in the bill introduced by Congressman Fitzgerald of New York. Typical expressions of opinion are given herewith.—Editor Manufacturers Record.]

An Embargo on Foodstuffs Would Soon Bring an Embargo on Cotton.

[The Knoxville Sentinel.]

The declaration by Representative Fitzgerald of the purpose to bring in a bill to embargo the exportation of foodstuffs should be met at the outset with determined opposition, especially on the part of his Democratic colleagues in Congress. The threat of an embargo is a menace to both the party and the country. It would almost seem that the Tammany type of Democrat in New York having failed effectively to knife the party by defeating its candidate for President is bent upon destroying it in the most certain way by putting an end to the reign of unprecedented prosperity the country is enjoying and substituting an era of calamity therefor. If the embargo measure were once put upon the legislative ways, it would not stop with the interdiction of food shipments. Foodstuffs are not the only commodities that are affected by the reign of high prices. Everything the consumer is compelled to buy is kiting in the same high trade winds. The farmer has to pay the high prices for his implements and supplies of every sort. If his wheat and bacon and beef and other products are denied the foreign markets he will demand that the manufactured products be also included in the embargo. If Southern Congressmen vote to lay the embargo on the Western farmers' grain and cattle, the Western Congressmen will demand it be laid upon the 20-cent cotton for which the farmers in the cotton belt are no doubt preparing with visions of wealth luring them on surpassing the fabled wonders of all the Gorcondas and El Dorados of the past.

The Outrage of an Embargo.

[The Florida Times-Union.]

The truth is an embargo would not accomplish any purpose. It would justly incense the farmers. They would not continue to plant for the world if they were not permitted to sell to the world. If they were compelled to sell only to the home market they would plant only for the home market. They would plan to produce rather less than the home market demanded, otherwise they would be facing ruin. The ruin would be brought on them by the Government that would be at the same time forcing up the prices of what they were compelled to buy and forcing down the prices of what they were compelled to sell. Any man in public life who proposed this confiscation of the property of the farmers would not long remain in public life.

The Folly of a Food Embargo.

[The Atlanta Journal.]

Unless a famine were threatened or widespread want were at hand, it is hardly conceivable that Congress would lose its head so far as to forbid the exportation of foodstuffs. So drastic a step, besides being uncalled for by present circumstances, would lead to conditions incomparably more worse than those it is proposed to remedy. High prices, however burdensome, are preferable to paralyzed industries and to the alienation of those customers who have contributed so much to our present prosperity and whose continued good-will is so important to our future interests.

While the food situation in this country is serious in some respects, it is by no means desperate. The rising cost of bread, due largely to a shortage in the last wheat harvest, and the accompanying increase in the price of other staples constitute a heavy problem in a great many families. But prosperous times invariably bring high prices, and for the rank and file of workingmen the present scale of the cost of living is balanced by wages unprecedentedly high. Wherever burdensome prices are due to monopoly or manipulation the law should

intervene for the public's protection, and due efforts should be made to improve the methods for distributing and marketing food commodities. At the same time, it should be remembered that existing conditions are due chiefly to natural causes and economic laws. It is far better to await with patience and frugality a normal readjustment of food prices than to rush to radical measures that would lose a pound to save a penny, and put the peacefulness of our foreign relations severely to hazard.

While an embargo on food exports would pull prices down, it would also pull prosperity down. It would cut off millions of the foreign business that keeps our factories roaring and enriches, in one way or another, every field of our commercial affairs. * * *

For the United States to stop its exports of food necessities at this juncture of the world's affairs would be as grave an error of diplomacy as of economics, if indeed it would not be a trespass against humanity itself. If our own people were in peril of starving or in widespread want the case would be quite different. But to refuse to sell to Europe, with conditions as they are here and as they are there, would naturally arouse the resentment of the nations that wished to buy and were refused. The fact is most, if not all, of the present agitation for an embargo comes from persons who are either intensely pro-German or intensely anti-English. The main animus in the entire movement, of which more will be heard when Congress convenes, is a desire for retaliation against British blockade measures or a desire to fight for the Central Empires through the American Department of State.

The same persons and interests that urged, in the first year of the war, an embargo on the shipment of munitions to the Allies because Germany and Austria were blockaded now urge an embargo on shipments of foodstuffs to the Allies. The latter proposal is just as unreasonable, and, if carried out, would be just as unneutral as the former was. Unless the embargo were applied to all countries, neutral and belligerent alike, it would be construed as a deliberately unfriendly act by the Allies, and so in effect it would be.

There is scant likelihood that Congress will venture on a course so unfair, unnecessary and hazardous, however clamorous the agitation from certain quarters may become.

No Food Embargo.

[The Montgomery Advertiser.]

The effort of Congressman Fitzgerald to crystallize the wishes of the middlemen and the Teutonic sympathizers to have an embargo placed on foodstuffs will fail, we are pleased to believe. It is opposed by the soundest economic wisdom. The project, too, it is understood, is opposed by President Wilson.

We might in the beginning look at it from a selfish standpoint. A Congressional act placing an embargo upon foodstuffs would be a blow to the South. Such an act would be an attack on all the agricultural interests of the country, and the South is distinctly and essentially an agricultural country. An embargo act would be a bold attempt in the interest of other classes to prevent the farmer from reaping his profits under exceptional conditions. It would be advanced in the interest of the people who are oppressed by the high cost of living, but its patent effect would be that Congress would take the unprecedented and unheard-of proceedings of legislating against the producing classes, while it proposed to leave untouched the profits of every other class.

While it would appear on the surface that the South is selfish in opposing such legislation, because it is the great agricultural section of the country, the same causes which set the South in opposition to a food embargo also stimulate the opposition of the West and Middle West. Congressman Fitzgerald comes from Greater New York, where some seven millions of people are non-producers. These people crowd in a great city

to enjoy the excitement, diversion and pleasures of city life. Many thousands of them have come deliberately from the farms, that they and their families may be in the midst of pleasure and excitement.

Now, any government that seeks by law to encourage the migration from the farms to the cities, which would encourage the herding together in the cities of its people, which would stimulate the movement to increase the number of consumers and diminish the number of producers is following a policy of fatal error.

We are not sure but that the high cost of living, involving increased profits of the farmer, is not a blessing in disguise. While the high cost of living bears, unfortunately, upon the salaried man and his family, this penalty which it puts upon living in a city may work well for the future of America. The man who labors and who produces on a farm should have some compensation for his sacrifices and the sacrifices of his family. The man who insists upon living in a city, and of raising his family amidst the attractions and the allurements of the city, should not complain unduly if a great war and accompanying economic disturbances puts an additional penalty upon the life he chooses.

The basic prosperity of the country is not the prosperity of the city, but the prosperity of the agricultural classes. In economic and industrial papers we are told that steel is the great industrial barometer—when steel is high prosperity is general; when steel is low prosperity is scant. But we are convinced that whenever farm products are high, when farmers are prosperous, the country generally is in funds.

We need not go so far as Thomas Jefferson in decrying the city to realize its subordinate place in the scene of American life. Jefferson described large cities as being "pestilential to the morals, the health and the liberties of men." We need not go that far, but we should insist that Congress shall not abolish the profits of the farmers because people who are enjoying city life find that their privileges are coming high.

This agitation for a food embargo proceeds from three sources; first, the purpose of Teutonic sympathizers in this country to deprive the allied countries of the advantages they gain by controlling the seas; second, by middlemen, such as the American Association of Master Bakers, who see their profits cut by the increased price of foodstuffs, and third, from the people of the cities, who want their excitement, but who do not want to pay the price for it. Against these, in opposition to the proposed embargo, we have the general welfare of the American people who only demand that the channels of trade be left open and free for the disposition of the products of the American farm.

We have come to a pretty stage in America when we have people insisting that Congress by tariff acts guarantee the profits of the manufacturer, and demanding at the same time the profits of the industry of far greater importance—farming—be destroyed by act of Congress.

Alabama Graphite Development.

Graphite deposits in Clay county, Alabama, will be developed by the Acme Graphite Co. of Birmingham, Ala. This is a new corporation formed with a capital of \$125,000 and the following officers: E. J. Eisenmeyer, president, Springfield, Mo.; A. W. Shultz, vice-president, Independence, Kans.; L. H. Weller, secretary, Birmingham.

Near Lineville, Ala., the American Graphite Co. will develop 100 acres of land, its plans including buildings and machinery for a daily capacity of two tons of refined graphite. This is also a new enterprise, incorporated with a capital stock of \$40,000. S. L. Brewer of Tuskegee, Ala.; S. C. Doby and L. G. Brewer of Atlanta, Ga., are the incorporators.

Big Plant for West Virginia.

A large daily capacity has been decided upon for a plant which the Staunton Clay Products Co., C. H. Forry, vice-president and manager, Newark, O., will build at North Mountain, W. Va. It will be 100,000 face bricks, 60,000 pavers, 120 tons of fireproofing material and 8000 pieces of pipe, all the machinery except the electric motors having been ordered. The buildings will be of ordinary construction, 720x46, 96x80 and 90x45 feet, with K. R. Forry of Newark, O., care the Scheidler Machine Works Co., as architect and construction engineer in charge.

Broad Plans for Development of 45,000 Acres of Wet Lands in North Carolina

NORFOLK SOUTHERN FARMS, INC., A WELL ORGANIZED AND STRONGLY FINANCED CORPORATION, TO UNDERTAKE GREAT WORK IN AGRICULTURE, STOCK RAISING, MEAT PACKING, ETC., ON TRACT IN EASTERN CAROLINA, ALONG NORFOLK SOUTHERN RAILWAY.

[The plans of the Norfolk Southern Farms, Inc., for the development of a 45,000-acre tract of wet lands in Eastern North Carolina, as described herewith, is an unusually broad and comprehensive undertaking. The project is in the hands of interests of ample capital, under whose management it is destined to become one of the conspicuous features of the South's agricultural development along modern business lines.

Land is to be drained and cleared and its agricultural capabilities developed to the fullest possible extent, including the growing of corn and other foodstuffs, for which the black fertile soil is admirably adapted, and the raising of livestock and the ultimate establishment of packing-houses, grain elevators, etc., and the direct shipment of products to Eastern markets.

About 50,000,000 acres of swamp or overflowed lands are available for reclamation in the South. For some years many important reclamation enterprises have been vigorously pushed and large results secured. The plan in hand goes a little farther, we believe, than anything yet undertaken. The large investment which has been put into this undertaking will attract the attention of capitalists and farmers throughout the country to the limitless potentialities of reclaimed Southern wet or swamp lands.

At the present time, when there is a shortage of food supplies throughout this and other countries, any movement to increase the supply is of especial interest to the nation; for if the entire wet lands of the South could be drained and put under cultivation they could produce a corn crop equal to the total production of the entire country at present, and at the same time these lands could be made to enormously increase the supply of hogs and cattle for the country's needs.—Editor Manufacturers Record.]

By HOWARD L. CLARK.

New York, December 1.

Forty-five thousand acres of fertile virgin lands in Washington, Beaufort and Hyde counties, North Carolina, have been purchased by Mark W. Potter of New



MAIN CANAL CONSTRUCTION THROUGH DENSE TIMBER GROWTH.

York, president of the Carolina, Clinchfield & Ohio Railway Co., from the John L. Roper Lumber Co., a subsidiary of the Norfolk Southern Railroad. Organization of the Norfolk Southern Farms, Inc., has been effected by Mr. Potter, and he has taken in as his associate John A. Wilkinson, a large landowner and experienced planter of North Carolina, who will manage the affairs of the company in that section. The land is to be drained, timber and brush cleared off, roads constructed, the property developed along general farming and livestock raising lines, and then divided into suitable farms and sold, with the exception of the acreage to be retained for the company's own use. Drainage operations, the financing of which is taken care of by drainage bonds issued in accordance with the laws of the State of North Carolina, will comprise the digging by steam dredges of about 175 miles of canals or ditches. Work has been started, and two steam dredges are now in operation.

The holdings of the Norfolk Southern Farms, Inc., comprise one tract of 45,000 acres, approximately six miles wide and extending about 15 miles along and west of the line of the Norfolk Southern Railroad, with its northern boundary near Roper and reaching south to Bishop's Cross. The tract is covered, except a small portion already under cultivation, with native shrubs and trees, the larger timber having been removed by the Roper Lumber Co. This whole area, while a comparative swamp, has a gradual fall of about one foot to the mile, its western portion being 20 feet above sea level

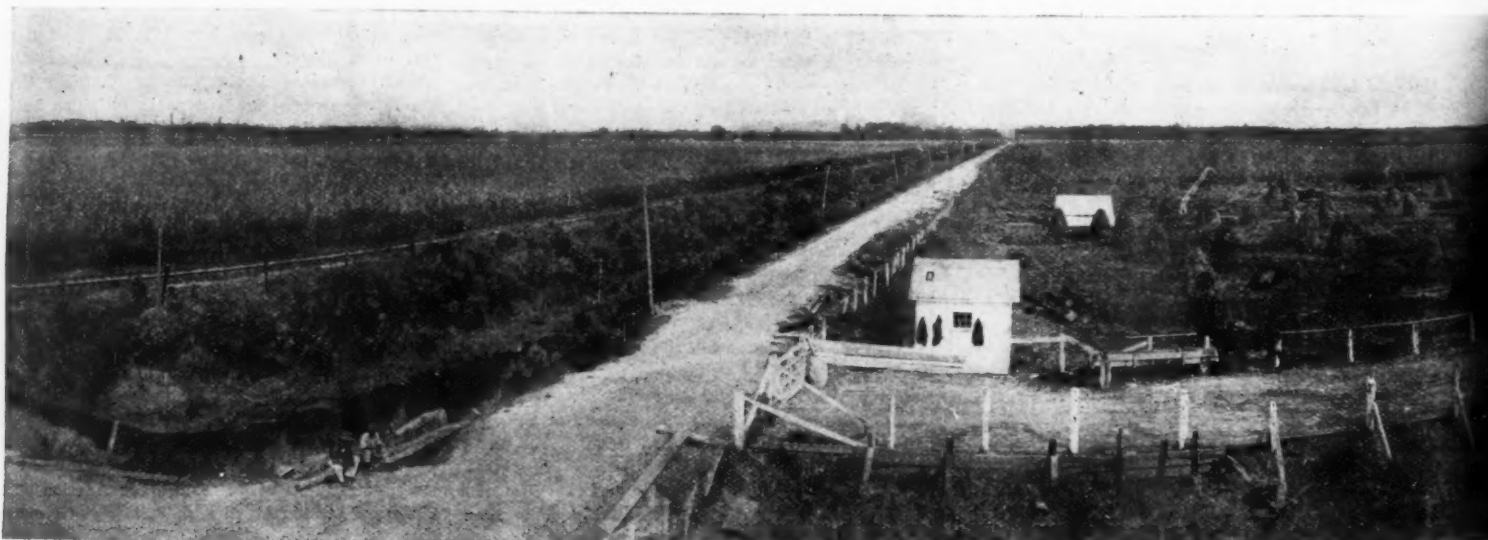
and sloping to about 16 feet along the eastern boundary at the railroad and continuing to slope east of the railroad to about nine feet above sea level. Also from the central portion of the tract north and south there is a slight fall, so that the drainage of the northern part of the property is to the northeast into Albemarle Sound, while the water from the southern portion drains to the southeast into Pamlico Sound.

Supplementing the canal already dug along the southern side of the property, the company plans to dig a canal approximately 50 feet wide along the western side of the Norfolk Southern tracks and a similar canal along the northern edge of the property to join the first canal running into Mackey's Creek, which empties into Albemarle Sound. Included in this main drainage system are to be ditches 20 feet wide, spaced one mile apart, running in a northwesterly and southeasterly direction and emptying into the main canals, by the railroad, and similar ditches running northeast into the main canal along the northerly edge. Midway between these cross-ditches or laterals there are to be dug ditches averaging from 16 to 18 feet deep. The complete drainage of the land will be accomplished by the introduction of small cross-ditches or drain tile which will empty into the laterals.

Funds for the construction of all the main ditches will be taken care of by the formation of two drainage



FIRST LAND-CLEARING OPERATION. TREES AND BRUSH CUT AND READY TO BE BURNED.



PANORAMIC VIEW OF RECLAIMED LANDS ALONG NORFOLK SOUTHERN RAILWAY NEAR BELHAVEN, N. C., SHOWING PREPARED 87

districts operating under the drainage laws of North Carolina. Albemarle No. 1 Drainage District has already been formed, with a bond issue of \$300,000, and the second district, which is to be known as Albemarle No. 2, will be organized later.

The land will be drained and reclaimed at the rate of from 5000 to 10,000 acres per year. It is planned for the company to retain and operate a large portion of the property which ultimately will total about 20,000 acres, while the remaining area, when cleared and ready for cultivation, but not until then, will be cut up and sold as farms of convenient size. On these farms when sold payments will be made out of the profits of crops. Agricultural activities connected with general farming will be divided into departments in charge of an experienced manager. For instance, there will be a department of farm management, having charge of the company's farms and the supervising of everything pertaining to the farms managed by others, utilizing the services of the other departments of the company should the conditions require it. The intent of this department is to provide efficient management of properties which it sells to persons who may not be justified by experience in carrying on a farming operation or who for other reasons may not desire to be responsible for the detail of farm management, and to provide for the apportionment of crops, crop distribution, when and how many acres to plant in a given crop in order to insure the proper balance so as not to have too much of one product and not enough of another.

A Department for Purchasing and Selling will also be organized to have charge of purchases and sales of the company, and also for the accounting of persons whose operations the company manages. It is hoped that this department will facilitate the working out of the company's plans of co-operation with farmers acquiring lands, in the purchase and utilization of breeding stock, machinery, etc., as well as in the marketing of products of the farm, including the arrangements for the accommodations of farmers in their financial and banking necessities, to meet their seasonal requirements.

There will also be separate departments devoted to hog and cattle raising and for the general development of the livestock industry.

The last but not the least important is to be a Scientific and Experimental Department, headed by a trained and experienced authority on scientific agriculture. His duty and function will be to carry on studies and experiments with a view to the improvement of methods of cultivation, seed selection, etc. The aim of the company is to have this department insure the utilization of the best methods of cultivation and fertilization. Special attention will be given to increasing production by seed selection. The benefits derived from the research work of this department will be given to persons purchasing lands and the opportunity to obtain advice and purchase seed stock at moderate cost.

Ultimately, after farming and stock-raising operations have advanced to a point where conditions warrant, a central packing plant and grain-storage elevators are to be built and run by the company and operated for its benefit and for the benefit of the surrounding landowners. In conjunction with the packing-house,

shipment of fresh meat will be made direct to the consumer. It will be forwarded in refrigerator cars, and in less than 24 hours, if its destination is New York, motor trucks, also to be operated by the company, will distribute the meat to hotels and other large consumers in the city. This feature, in view of the high cost of foodstuffs, is of particular interest. While newspapers and others are discussing and suggesting ways for reducing the cost of foodstuffs, Mr Potter has already formulated and put into motion a plan that is the only real solution of the problem—the growing of more food-

stuffs and the selling of these foodstuffs direct by the producer to the consumer.

Not until complete testimony regarding the advantages, possibilities for development and practical working out of farming and stock raising on an experimental tract near Pinetown, N. C., of some 1200 acres purchased by Mr. Potter several years ago was received, did he announce his plans. The soil and other conditions in this territory have been investigated by experts on several occasions. Prominent among these investigators were Dr. Alfred Dachnowski of the Ohio State University, Columbus, O., and Joseph E. Wing of Mechanicsville, O., an experienced and well-known farmer and sheep expert of that section. Dr. Dachnowski, writing about this trip, said: "The South and its climate offer great promise for a larger yield and a greater variety of crops, if properly selected, propagated, improved by plant breeding and tested by experiment. The time has come to turn attention to the more productive peat and muck soils of this country.

"I was much impressed to see how easily this land is put into cultivation, and was happily pleased to see nowhere any evidence of injurious by-products or spots unfavorable to vegetation. Really, to get the water off, to subdue the canes and grass, to plant and till are the main problems, all easy of solution.

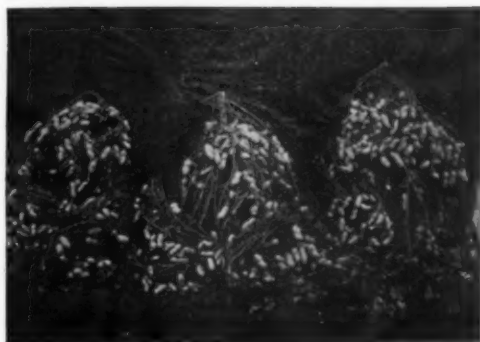
"It is really marvelous. Here we had begun to look at America as filled up and with no new corn lands anywhere to plow. It is true that the Western prairies are all gone, and that corn yields in the corn belt decline, but here come to relieve us soils incredibly rich, under a genial sky, in a healthful climate. The softness and ease of working the Wenona soils is marvelous. A team and a man can do more there than in any other part of the world that I have ever seen.

"The soil is equal to the best for corn and fodder grasses, for onions, celery and other garden truck. It is situated in one of the best climatic areas, suitable for a variety of plants. The improved agricultural practices of the thoughtful Northern and Western farmer will give a greater yield and will lead to maintaining the fertility and crop production of the soil. There is a demand for products, and no one questions the accessibility to markets."

Mr Wing made two visits to this section. After his first trip in 1913 he said: "The soil is magnificent. All of this swamp soil is magnificent, and the amount of fertility in it is almost past belief. I have not figured the chemical contents of these soils, but I have no doubt an acre of such land would have in it more fertility than one would purchase to put in an acre of poor land at a cost of \$2000. Properly farmed, this land should forever be fertile. I have never in my life, anywhere in the world, seen larger corn than I saw there, not even in Brazil. The fertility of that land planted by sticking method is marvelous, and properly farmed, as I have said, I see no reason why it should not remain fertile forever.

"I believe the land is capable of producing 175 bushels of corn to the acre."

Again on his second visit, a year later, Mr. Wing



CORN, SWEET POTATOES AND PEANUTS, THREE TYPICAL PRODUCTS OF RECLAIMED LANDS.



ADVANCED STATE OF DEVELOPMENT AND CULTIVATION. THREE YEARS AGO THE ENTIRE TRACT WAS VIRGIN SWAMP.

wrote that the lands of that section are among the wonder lands of the world for corn production. Said he: "I should like to know how many crops they will grow without becoming exhausted. I imagine that some hundreds of corn crops can be taken in succession if a little lime is given from time to time, and on some parts some potassium and possibly a little phosphorous is applied.

"Those lands are so marvelously good at retaining moisture that it is really wonderful. I cannot imagine a drouth that would ruin a corn crop on the lands because its thick blanket of vegetable matter is one vast sponge to absorb and hold moisture.

"And yet I do not think that a wet season would do the least bit of harm with the efficient drainage provided; in fact, the lands will better take care of heavy rainfalls than the harder types of soil.

"If there is greater corn land in the United States, I do not know where to go to find it."

C. S. King, who recently resigned as manager of the Hog Department of Miller Brothers' Ranch 101 near Bliss, Okla., to manage Broad Acre Ranch, owned by Mr. Potter, says that the soils in that district are of the heavy black kind. They are of the same character as the lands of the Norfolk Southern Farms, Inc., in Beaufort, Hyde and Washington counties, which are adjacent. Continuing, Mr. King says: "The black surface soil, which is about four feet thick, contains from 60 to 80 per cent. of vegetable matter, which is mixed with sand and is underlaid with clay and sand. As the lands have a surface fall of about one foot to the mile, they require drainage, which down to the present time has been done only by open ditches. The land is so porous that it drains well, with ditches far enough apart so as not to interfere seriously with cultivation. We expect to put in drain tile later, as the land is so valuable that it will pay to put in drain tile in order to use the land occupied by the open ditches.

"The undeveloped lands carry a dense growth of trees. They are cleared by simply cutting down the trees and burning them where they fall. The first

year's burning disposes of everything except the larger logs and stumps. Immediately after the first burning the land is planted to corn by the 'stuck corn' method, and yields from 20 to 30 bushels to the acre without cultivation, except a little hoeing in spots where the weeds get a start. The second and third years the land is again burned over and put into corn by the same method. The fourth year so many of the logs and stumps have disappeared that final cleaning up is easily done and the land is then put under the plow. One of the remarkable features of these lands is that the crops that can be grown during the clearing by the cutting and burning method more than pay for the clearing.

"On Broad Acre there is in corn this year about



SIDE OF A DRAINAGE DITCH, SHOWING FORMATION AND DEPTH OF SOIL.

320 acres. We are now cutting about 1200 acres, and next year will have upwards of 1600 acres.

"Adjoining this ranch there are about 10,000 acres of these lands which have been put in cultivation during the last five years and which illustrate the different stages of the clearing and development process.

"They are the best lands for general farming and stock raising that I have ever heard of. I do not believe that there is any land in the world that can produce beef and pork at a lower cost. We have the best corn that I have ever seen, the yield averaging from 90 to 100 bushels per acre under ordinary cultivation.

"Besides the corn, the lands are now producing phenomenal crops of cowpeas, soya beans, rape, winter rye and oats, as well as the standard grasses for hay and pasture. Next year I am going to put in clovers and alfalfa, and am confident that both will do well. Soya beans, cowpeas, rape, winter rye and oats sown in the corn at last cultivation furnish excellent grazing throughout the winter, so the land will grow the best of stock foods throughout the entire year.

"The temperate climate makes economical housing plans possible and increases the efficiency of the foods fed to stock. The advantages of these lands over the corn belt lands of the North and West are many. All things considered, I am convinced that pork can be produced on these lands at an outside figure of four cents per pound, and it should be produced at a cost substantially lower. The additional advantage of nearness to consuming markets, as compared with Western lands, is obvious."

Last October F. F. Rockwell, consulting agriculturist, was sent down to North Carolina by Mr. Potter, and a summary of his findings is given as follows:

"The soil is more fertile than that of any large tract of which I know. The drainage problem has been solved. Clearing is done quickly and cheaply by the 'cutting and burning' process. This permits the growing of a crop of corn each season during the three or four years covered, which I am reliably informed (and which the crops actually growing would indicate) more than pays the expense of clearing. The contour of the



FIRST CROP OF CORN, PLANTED AMID BURNED LOGS AND STUMPS, PRODUCES FROM 30 TO 50 BUSHELS PER ACRE.



HEAVY CROP OF SOY BEANS SIX WEEKS AFTER PLANTING ON LAND TWO YEARS UNDER CULTIVATION.

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SECOND AND THIRD-YEAR CORN CROPS, FLANKING HAND-DUG LATERAL DITCH.

TYPICAL OF GOOD ROADS THAT FOLLOW DITCH CONSTRUCTION. CORN CROP AT LEFT SIX MONTHS AFTER PLANTING.

land and the physical condition of the soil after it is cleared are ideal for the most economic production of crops, being easily handled, level, and free from obstruction. The climate is congenial and favorable for the carrying on of agricultural operations with a minimum of interference from weather sources. The local supply of labor is good, and the opportunities for augmenting it, when desired, are favorable. Adequate markets are near at hand, and transportation to them already established. While it is impossible to predict any definite value for land in a new section, it is my opinion that this soil, when cleared and drained, will prove to have a value for agricultural purposes as great as any in America used for general farming and stock raising, and that at some points development can be extended into the higher values reached by market garden sections.

"In brief, this section has more natural advantages which should tend to make it the center of a great centralized modern agricultural industry than any other of the many sections into which 10 years of agricultural work have taken me."

Under date of November 20, G. G. Burlingame, Cazenovia, N. Y., also made a report on the property, which contained in part the following:

"The muck lands of the Pantego district, northwest of Bishop's Cross, is originally practically level swamp land covered with a heavy growth of gum, cypress, etc. A subsoil of clay, sand or marl is covered by a surface soil (averaging two to four feet in depth) of rich, soft mold, usually known as muck or mucky loam. This muck land is wonderfully fertile—there is absolutely no question about the fact—for it is actually producing in the field, without cultivation or fertilization, corn yielding 50 to 80 bushels per acre. I would not have believed this possible if I had not actually seen it. That the fertility of this land, due to the large amount of humus it contains, is not easily exhausted is also proven by the fact that after five or six years of cultivation

it is still producing good crops without the application of any fertilizer. It has already been found adapted to growing the ordinary crops of the locality—corn, potatoes, soy beans, cotton, etc.—in their proper rotation. Once drained and cleared, the soil is free from stones, is mellow and easily worked."



CORN AND SOY BEANS FOLLOWING POTATO CROP THAT YIELDED 100 BUSHEL TO ACRE.

Tile Draining Lands in Mississippi Valley.

Memphis, Tenn., December 2—[Special.]—The large amount of farm drain tile that is being installed throughout the lower Mississippi Valley is typical of the rapid development that is taking place in that territory.

The excellent results that have been experienced by the owners of land that is properly drained has created an increased interest in the possibilities of drainage. The very good prices that have been received for cotton this year have not only proven a stimulus toward this end, but have provided funds for carrying the improvements forward.

The organization of drainage districts to dig open outlet ditches has been a part of the effort that is being put forth, but intensive drainage by the improvement of later farm drains and the installation of tile is a part of the program that is growing in leaps and bounds.

As a typical example of some of the work that is being proposed in this latter connection, it may be mentioned that the Morgan Engineering Co. of Memphis, Tenn., has just completed plans for the complete tile drainage of 80 acres at Wilson, Ark. This soil is heavy clay, and is to be very thoroughly drained by spacing the tile at 50-foot intervals over the entire tract. This land will be planted to alfalfa.

Another striking example is the complete tile drainage of 1000-acre plantation at Effie, Miss., surveys for which are being made by the same company, and which are nearing completion. Cotton will be raised on this land.

It is planned to do the construction work on these two jobs this winter. Both jobs will be done by contract.

The Douglas (Ga.) Hosiery Mills will build a 60x20-foot addition and install 31 knitting machines with accompanying ribbers.



RESIDENCE OF W. B. BOSCHEN.



RESIDENCE OF J. M. BARR, JR.

Homes that have been built on reclaimed land three years from state of swamp in vicinity of development of Norfolk Southern Farms, Inc.

How Long Will the War Last?

[Every business interest of the world is asking the question, how long will the war last? Commerce, finance, industry, the cost of foodstuffs, all hinges upon the duration of the war. But really the great question at issue, infinitely more important than wealth or poverty, business prosperity or stagnation, high cost or low cost of food, is the moral side of the war, the fight for civilization, and the awful cost in lives and in human suffering. Everything that throws real light upon the situation is therefore of vital interest to the world. For this reason we republish an editorial from the New York Tribune, probably the best authority in America on the war situation, and a letter issued by J. S. Bache & Co., one of the leading banking houses of the country. Their views are illuminating, whether our readers agree with their conclusions or not. Editor Manufacturers Record.]

The Great Parallel.

[New York Tribune.]

Fifty-two years ago the American people had to decide the question which now faces the British and French people. In the spring of 1864 the whole North had looked forward to Grant's campaign for Richmond with hope and confidence. Gettysburg and Vicksburg had been won, the campaign in Tennessee had turned, there were obvious evidences of the beginning of the decline of the resources of the South. The Confederate press no longer talked of a peace dictated at Washington; rather it declared the war had become a deadlock, and on the defensive it claimed the South was invincible.

But a few months later the terrible costs and the bitter disappointments of the campaign from the Wilderness to Cold Harbor had brought its consequences. Losses more terrible and more sustained than the Civil War had hitherto inflicted had not brought victory. Grant's brilliant reputation had been dimmed by what seemed then a failure, and before Petersburg the army of Lee stood as firmly as the Germans now stand at the Somme.

In that hour, as in the present, there were not lacking those who agitated for peace, men and women moved by the horror of the slaughter, men and women unnerved by the terrible summer and the relative failure. To them peace at any price and under any condition seemed better than further killing. "Erring sisters, go in peace!" became quite as familiar as the similar "slogans" of today.

The question was referred to the people of the North. There was a direct vote in the national election of 1864. And the voice of the people of the North was unmistakable. All hope of any end but a decision vanished when the votes had been counted and the determination of the millions of the "plain people" who were bearing the burdens, the sorrows and the tragedies of the conflict was made manifest.

And this vote was determined by one thing. Looking clearly and calmly, with prophetic vision, the people of the North in that day perceived that it would be impossible to attain enduring peace on this continent if the Union were shattered. They saw their future and the future of their children face to face, and they willed that the war should go on. They perceived that all the terrible sacrifices of the previous years would go for nothing if there were not a final decision.

There were not lacking in 1864 European statesmen and sovereigns eager to intervene. There were not lacking humanitarians at home and abroad who argued for peace and appealed to their governments to proffer their good services. What is happening here now happened in Britain and in France in 1864. Had Abraham Lincoln been defeated, peace would have come as the result of foreign influence, but the American people perceived this and Abraham Lincoln was re-elected.

We Americans must remember our own history today. With the same clarity, the same vision which the great crisis in our history revealed half a century ago, the people of France and of Britain, the mothers and the fathers of those who are dying in Flanders and Picardy, are envisaging the future. Their spirit, their will, their determination are what ours were; equal suffering has developed equal constancy, courage, inspiration.

Let us not forget what we escaped because our fathers and our mothers had the courage and the vision to suffer and endure. We are one country, with a single destiny and free from all the perils of frontiers and quarrels, because the war was fought to its finish and the question of secession was abolished for all time.

Let us not forget that for democratic Europe our example is a precious example and an inspiring parallel.

Let us not forget, also, that peace now in Europe would be precisely the thing peace in 1864 would have been in America. Now, as then, the war is approaching its decision, but now, as then, the great question is not decided. Nor should any man or woman ever forget the great question. It was posed the hour in which Germany invaded Belgium. It was raised yesterday when German masters in Belgium adopted the methods of the ancient Pharaohs and drove a people before them into slavery. It was raised by the Lusitania, it is being raised in the plains of Rumania, where new reports of German barbarities reveal the fact that the German idea lives and marches still.

We have no interest in the question of frontiers; we have no stake or concern in the matter of the possession of Constantinople or the partition of Asia Minor. We are as little concerned with some of the incidental issues of the great war as was Europe with some phases of the Civil War. But we are interested in the preservation of humanity, of civilization and of law from the assault which the Germans have made upon them and the menace which a survival of the German idea would have for them.

The German has elevated the German interest and the German purpose above all that civilization has acquired in the centuries. He has proclaimed in advance of the present war that German necessity was above law, and he has practiced this doctrine on all the fields of battle. Wherever German armies have gone there have been atrocities and brutalities, not those of war merely, but those organized, carefully and scientifically planned butcheries which are the lasting expression in blood of the meaning of Germanism in the world today.

The German method and the German ideal are old. Frederick the Great did in Silesia what William II is doing in Belgium. At the end of the war he kept Silesia, and this encouraged his successors to new acts of equal immorality. For nearly two centuries the German idea, first Prussian, has marched from one war to another to accomplish the purpose of all Germans, the domination of Europe and the mastery of the world.

When the German people have resumed the control of their own government, when the German people have renounced the policies and the purposes of their rulers, then peace may come without the despoliation of Germany as peace came to France in Napoleon's time and left the France of the Ancient Regime undisturbed. But if Germany can remain as she is, if the German rulers can bring back from this last terrible war of conquest a new Silesia, a new Alsace-Lorraine, a new Schleswig, then we shall have new wars until that time when at last the German idea is crushed in the blood and slime of a final defeat.

All that civilization means remains at stake. Nothing has yet been decided as to the momentous question raised by Germany in the first week of August, 1914, when she sent the vanguard of hosts into Belgium to burn, to slay, to ruin a nation, because it stood between Germany and a purpose and dared to defend its honor and its independence. Those who fired Louvain and sank the Lusitania rule Germany; they remain faithful to the spirit of these crimes, and while this condition endures peace is impossible for long and peace now would be a crime against posterity.

Half a century have completely obliterated in the American mind the memory of the great decision, the greatest decision of our national history. Democracy on this continent, perhaps in the world, as saved because the simple, loyal men and women of that brave time faced the new sacrifice and performed their terrible duty without flinching. No one who has heard

the story of those days from the lips of those who were alive then can fail to realize how great, how crushing were their grief and sorrow, how hideous the war that they willed should continue.

Today the vast mass of the men and women of France are facing the same tragedy with the same grim determination. Their hearts are torn as were the hearts of American men and women, but their wills remain unshaken, because there is in the men and women of all races a nobility in the presence of the supreme hour which conquers all that is selfish, all that is weak. By this alone nations live and races survive from century to century.

This war was born of German determination to crush all that came between Germany and world domination. It was provoked after long preparation; it was prosecuted with fiendish brutality which endures to the present moment and with each succeeding month gives new proof of German spirit and German methods. It can only end when this German spirit is exorcised, whether it ends at the Rhine or the Spree, whether in 1917 or 1927. It can end only in one way, because to believe that it could end save in German defeat would be to believe that we were witnessing the end of all that makes for sweetness and light, for human happiness and human aspiration in this world.

Today, as yesterday and all days since August, 1914, Belgium is the sign manual of German purpose. The spirit that was revealed in Belgium is a spirit with which there can be no compromise and no accommodation. All this the men and women of France and Britain see and realize. They, like our fathers and mothers, have made the great decision. They will endure to the end. Can we afford, with our history and the example in our minds of those who gave us liberty and preserved our country for us, to contribute in the slightest measure to the burden of suffering and grief which is the share of those who have willed that, whatever the cost, the German spirit shall not endure to bring new horrors and new tragedies to the generations that are to come?

Ineffectual—Ideas Far Apart—Unalterable Attitude of the Allies—Foreign Loans Increasing Here.

[J. S. Bache & Co., The Bache Review, New York, November 25, 1916.]

Peace talk is simmering around again. It has its uses. It breeds a certain amount of conservatism. It keeps enterprise from expanding wildly, it clips inflation and robs it of immediately developing danger. But it does not affect the course of the war. It is like a little breeze that may be blowing in one part of a battlefield while the shells are hurling destruction incessantly overhead. The little breeze has no effect upon the battle.

It is very important from the commercial and financial side to know what the prospects of peace are. War has churned up a vast torrent of demand for products. It has raised prices enormously and they are still advancing. With the coming of peace the torrent of demand will subside rapidly, dangerously. Prices will begin to fall, perhaps not violently at once, but the thought of their fall will produce a shock all around the world. The readjustment of prices may be slow, but it is bound to be painful. With rising prices everybody makes money. In a market of falling prices people begin to lose money, and only the most cautious and far-seeing can avoid it.

What, then, are the prospects of peace at the present time? If this were an ordinary war, if the contention were for ordinary possessions or rights and neither side were nearer conquering the other than is now the case, after two years of war, with continuation costing millions of lives and billions of money, both sides would be willing to halt and confer to settle on a reasonable basis if possible. But this great struggle has in it none of these ordinary elements.

As it stands, Germany is willing and anxious to have peace, but she wants peace based on what she has done—based on the map as it now stands, with some concessions.

France and England have no such idea of peace. The way Germany has conducted the war has made it impossible to treat with her as an ordinary enemy. German atrocities, ruthless murders, bitter wrongs

against humanity, have transformed her in the eyes of her enemies into a monster. The French and British leaders assert that what is being fought is not a war between nations, but a death struggle between civilization and barbarism, between men and beasts. The British nation is thoroughly aroused by the crimes of the submarine and the zeppelin. Slowly but surely a deep-seated hatred has developed which means in the English nation extermination on one side or on the other. "As for France," says the New York Tribune, "she is thinking of the atrocities, of the crimes and horrors of the German invasion. She is fighting not a nation, but an idea, the idea of bestiality and brutality expressed in action by Germans. The French are not thinking of making peace with a foe, but of continuing a struggle with an animal whose predatory habits threaten the lives of French men and the honor of French women."

The way Germany has made war has transformed the whole character of the war and given her enemies new determination, new purpose and something approaching a passionate resolve to punish.

Tearing away the civilians of the conquered parts of Belgium and France, separating these from their families and deporting them to slavery in Germany is not a move calculated to soften the spirit of France and Britain. Even our Government has protested to Germany officially against this inhuman act.

This is the kind of uncivilization against which the Allies are fighting and which they swear to exterminate. "We shall fight," said Viscount Grey a month ago, "until we have established the supremacy and right of free development under equal conditions, each in accordance with its genius, of all States, great and small, as a family of civilized mankind."

Lloyd George's emphatic utterances on these points a few weeks before are convincing:

Britain has only begun to fight; the British Empire has invested thousands of its best lives to purchase future immunity for civilization; this investment is too great to be thrown away. . . .

The whole world, including neutrals of the highest purposes and humanitarians with the best motives, must know that there can be no outside interference at this stage. Britain asked no intervention when she was not prepared to fight. She will tolerate none now that she is prepared until Prussian military despotism is broken beyond repair. . . .

It took England 20 years to defeat Napoleon, and the first 15 of those years were black with British defeat. It will not take 20 years to win this war, but whatever time is required, it will be done, and I say this recognizing that we have only begun to win. There is no disposition on our side to fix the hour of ultimate victory after the first success. We have no delusion that the war is nearing an end. We haven't the slightest doubt as to how it is to end. . . .

At home the suffering and sorrow is great and is growing. As to the war zone, its terrors are indescribable. I have just visited the battlefields of France. I stood, as it were, at the door of hell. I saw myriads marching into the furnace. I saw some coming out of it, scorched and mutilated.

This ghastliness must never be re-enacted on this earth, and one method at least of answering that end is the infliction of such punishment upon the perpetrators of this outrage against humanity that the temptation to emulate their exploits will be eliminated from the hearts of the evil-minded amongst the rulers of men.

This is the spirit and the purpose today of France and of Great Britain. It is a spirit which cannot be broken by anything but national exhaustion. That would take years and years to develop, and long before it could happen the exhaustion and collapse of the Central Powers would have become inevitable.

But of this latter there is now no compelling sign, and the end is consequently far off.

On the recent newspaper discussion of this question, the Manchester Daily Despatch this week says editorially:

The American Journal, the New York Times, has started a stunt in favor of peace in a series of articles by one Cosmos, whose competence and authority, it asserts, would be recognized in both hemispheres. Since the first article was dated as recently as last Saturday, the presumption is they were written in America, and it will perhaps clear the air to say at once that there is not a solitary soul in that hemisphere whose competence and authority to interfere in this struggle would be recognized for one moment by any of the Allies.

We do not doubt the good intentions of our American friends, but it will save a world of misunderstanding if they realize here and now that the mediation of President Wilson is not desired, and would be resented, and when they profess to detect in the recent dialectical duels between our Foreign Secretary and the German Chancellor

feelers in the direction of peace, they mistake the temper of the British people, who would give his marching orders to any Minister who dared to hint at peace at this hour.

Peace will come when Germany has laid down her arms and thrown herself on the mercy of a grand alliance. Peace, on the other hand, that came as the result of a pow-wow, fixed up by the parties who themselves are too proud to fight, would merely be a breathing space between this war and the next.

In conclusion, the paper recalls the "words of Abraham Lincoln in answer to the peace prattlers who were pestering him nine months before the surrender of General Lee. 'We accepted this war with an object and the war will end when that object has been attained,' and so say all of us."

Southern Industrial Activities.

During November the Construction Department of the MANUFACTURERS RECORD published 4417 items relative to industrial developments, railroad and financial operations, building improvements and general business interests of the South and Southwest. These, as usual, have appeared in the Daily Bulletin and weekly in the MANUFACTURERS RECORD. During the preceding 10 months 49,253 items were published. Thus the number of such items published for 11 months of this year, up to December 1, totals 53,670.

The items for November are detailed in the following table:

Industrial and Developmental.	
Bridges, Culverts, Viaducts.....	65
Canning and Packing Plants.....	29
Clayworking Plants.....	13
Coal Mines and Coke Ovens.....	69
Concrete and Cement Plants.....	3
Cotton Compresses and Gins.....	7
Cottonseed-oil Mills.....	9
Drainage Systems.....	15
Electric Plants.....	15
Fertilizer Factories.....	6
Flour, Feed and Meal Mills.....	41
Foundry and Machine Plants.....	48
Gas and Oil Enterprises.....	119
Hydro-electric Plants.....	9
Ice and Cold-storage Plants.....	29
Iron and Steel Plants.....	15
Irrigation Systems.....	4
Land Developments.....	69
Lumber Manufacturing.....	10
Metal-working Plants.....	55
Mining.....	38
Miscellaneous Construction.....	82
Miscellaneous Enterprises.....	169
Miscellaneous Factories.....	108
Motor Cars, Garages, Tires, etc.....	198
Railway Shops, Terminals, Roundhouses, etc.....	66
Road and Street Work.....	11
Telephone Systems.....	47
Textile Mills.....	93
Waterworks.....	31
Woodworking Plants.....	31

Buildings.	
Apartment-houses.....	110
Association and Fraternal.....	35
Bank and Office.....	75
Churches.....	105
City and County.....	39
Courthouses.....	17
Dwellings.....	477
Government and State.....	32
Hospitals, Sanitariums, etc.....	36
Hotels.....	51
Miscellaneous.....	25
Miscellaneous Stations, Sheds, etc.....	189
Schools.....	212
Stores.....	19
Theaters.....	42
Warehouses.....	42

Railroad Construction.	
Railways.....	90
Street Railways.....	5

Financial.	
Corporations.....	81
New Securities.....	375
Fire Damage, etc.....	3,656
Machinery Proposals and Supplies Wanted.....	239
Total for November.....	622
Previously detailed since January 1.....	4,417
	53,670

\$500,000 Soda Pulp Mill.

Referring to the Yaryan Rosin & Turpentine Co.'s plans for manufacturing soda pulp, A. B. Ayerst, engineer, Brunswick, Ga., advises MANUFACTURERS RECORD:

All concrete and steel fireproof construction has been decided upon for buildings; the mechanical equipment will have a daily capacity of 50 tons of Kraft pulp. This unit complete will cost about \$500,000, but the company has not as yet decided just when it will build. Plans and specifications are not quite completed.

TO EXPEND \$200,000 FOR SHIPYARDS.

Philadelphia Corporation to Build Supplemental Plant at Norfolk.

The Southern Transportation Co. of Philadelphia has purchased land at Norfolk, fronting on the eastern branch of the Elizabeth River, to be utilized as a shipyard, and will immediately begin the erection of a \$200,000 plant for the construction and repair of barges, tugboats and other vessels. This tract adjoins the center of shipping in Norfolk harbor, with a frontage of 600 feet on the 25-foot channel. The surrounding locality provides ample ground for suitable homes for the 200 workmen who will be employed. Extensive dredging and bulkhead work will be begun immediately, which will add to present acreage. Contract has been made for the construction of a drydock to accommodate large vessels, and plans are being laid for early completion of buildings, including woodworking and carpenter and machine shops, steam and electric and other plants necessary for the repair and building of vessels for the coastwise trade. This company now maintains a large shipyard at Chesapeake City, Md., which includes a drydock and other equipment, but in the growth of the company's business Norfolk has gradually become a clearing-house for the vast tonnage it handles and the company felt the necessity for the maintenance of a shipyard at that point to take care of its large floating property.

The Southern Transportation Co. is said to have a marine investment representing about \$2,000,000, owns and operates a fleet of 115 vessels, barges and tugboats, adapted to both the inland waters and sea-going coastwise trade. It was this company which a year or so ago initiated and now maintains a regular service from South Atlantic ports—Wilmington, Charleston, Savannah and other points—via the inland waterways to New York and Northern ports, which service will be improved and enlarged with the advent of deeper waterways inside of Cape Hatteras. The shipyard which is being established at Norfolk will in part construct vessels suitable for the anticipated deeper inland waterways referred to. The company's plans contemplate the continuous construction of two boats on its launching ways at Norfolk without diminishing the construction work in its yard at Chesapeake City.

The general offices are at Philadelphia, but branches are maintained at Baltimore, Norfolk and Charleston.

Planning Big Hydro-Electric Enterprise.

The consulting engineer of the Southwestern Power, Light & Railway Co., W. T. Croslen, Oklahoma City, writes to the MANUFACTURERS RECORD:

"The company will soon be in the market with bonds of something more than \$1,000,000 for the hydro-electric construction of a battery of plants on the Washita River, beginning at Lindsay, Okla., and down to Crusher Station, including probably five plants. This improvement has been in course of survey and other initial work for some time, and the company deems it advisable at once to obtain the money and erect plants, as the output can be readily disposed of at Ardmore, Oklahoma City, Shawnee and other towns."

This corporation's plans were announced last year, the capitalization being \$3,000,000 and the intention being to develop water-powers to have an ultimate capacity of 75,000 horse-power and to build interurban railways.

To Drill for Oil in Mississippi.

Pascagoula, Miss., November 29—[Special.]—The Atlas Oil Co. of Shreveport, La., is in the Pascagoula field, and has up to this present writing secured oil leases on 25,000 acres of land in the vicinity of Vancleave, Jackson county, Miss. According to the terms of the lease, drilling is to begin within four months or lease will be forfeited.

The Alabama & Mississippi Oil Co. of Mobile, Ala., has its machinery on the ground, and will soon begin drilling in the western part of Mobile county north of Grand Bay and near the Mississippi State line.

The Mobile Oil Co., lately organized, will drill in the same section.

Wide Influence of Drainage Operations in North Carolina

STATE ALREADY BENEFITED \$50,000,000 — PAPER MILLS LOOKING TO CAROLINA FOR SITES.

By JOSEPH HYDE PRATT.

The Ninth Annual Drainage Convention, under the auspices of the North Carolina Drainage Association, was held in Greensboro November 22-23, 1916, and although the attendance was not as large as was expected, it was one of the most instructive and interesting conventions held by the association.

The following 21 counties were represented at the convention by specially appointed delegates: Alamance, Beaufort, Blount, Cabarrus, Catawba, Craven, Durham, Edgecombe, Forsyth, Guilford, Hyde, Lenoir, Mecklenburg, New Hanover, Orange, Randolph, Rowan, Robeson, Sampson, Stokes, Wake.

The Southern Railway was officially represented by J. C. Williams of Washington, D. C., and the Seaboard Air Line by E. E. Hunter of Wilmington. There were also representatives from Georgia and Ohio who were interested in drainage bonds.

The convention was opened Wednesday morning at 10 o'clock. A cordial welcome was extended the delegates by Judge N. L. Ure, city attorney, in behalf of the city of Greensboro; A. L. Brooks, president, on behalf of the Chamber of Commerce; W. C. Boren, chairman of the county commissioners, on behalf of Guilford county.

The response to the address of welcome was made by P. H. Johnson of Pantego, Beaufort county, N. C., president of the association. In his address Mr. Johnson made the following true and forcible statement regarding the swamp lands of Eastern North Carolina:

"I have been in many States, and have seen soil which will raise perhaps more corn to the acre than the soils of the reclaimed swamp lands of Eastern North Carolina; I have also seen soils in other States that will perhaps raise more potatoes than the soils of Eastern North Carolina; I have seen other soils that will raise perhaps more cotton, and still other soils that will raise more of other crops than perhaps we can on the soils in Eastern North Carolina, but I have never yet seen or heard of a soil that will produce as much of all of these various crops on the same land as can be produced by the soils of the reclaimed swamp areas of Eastern North Carolina. This makes it possible for the cultivators of these Eastern North Carolina lands to raise diversified crops of large production per acre."

There were three general subjects discussed at the convention:

(1) The direct reclamation of the swamp lands of Eastern North Carolina, and the overflowed areas of the Piedmont section; the cost of draining and bringing them into cultivation; the need of labor for cultivation, and the utilization of lands not at once brought into cultivation.

(2) The North Carolina drainage law, its effectiveness and what amendments are necessary to make it more effective.

(3) Tile drainage, its need and what it accomplishes.

The session in which the discussion of the swamp and overflowed lands were taken up was presided over by President Johnson.

W. D. Alexander drainage engineer of Mecklenburg county, made a report of the drainage in the Piedmont section, and said in part as follows:

"Practically all of the bottom or swamp lands in the Piedmont section have been cultivated at one time in their history. The clearing and cultivating of the hill-sides have allowed more sand and silt to come into the stream than its winding old channel would carry. This caused the channels to fill up, so that the lands were gradually abandoned, to become swamps and breeding places for mosquitoes and malaria. In many instances the farmers on the streams have tried to ditch the channels by hand and continue to cultivate the bottoms for their corn lands, but in most instances the ditches were of short duration, and these lands were also abandoned or used for swamp hay meadows.

"About seven years ago the first drainage district in the Piedmont section was organized. They bought a

dredge and constructed their own ditch or cleaned out their old one, making cutoffs where the distance could be made shorter by a new canal. The promoters of this district have since raised six magnificent crops of corn on their bottoms. Since then about 40 creeks have either been made or are on the way for the reclamation of their bottom lands. This will mean about 50,000 acres of very rich land reclaimed from what was not only useless but a menace to the health and welfare of the communities.

"The United States department of agriculture has been largely instrumental in promoting this work. In a number of districts they have made the complete surveys, while in many more their engineers have walked over the districts and made reports that gave the promoters in the district something on which to base their arguments."

N. L. Cranford of Winston-Salem, Forsyth county, N. C., gave as his paper statements taken from replies to letters from various farmers in the Piedmont section, which showed that "drainage pays." The following extracts from these letters indicate the feeling regarding reclamation of overflowed lands by drainage in the Piedmont section of North Carolina:

It cost about \$20 per acre to drain our lands. We are gathering corn and hay this year where last year we raised frogs and mosquitoes. The people are highly pleased.—O. O. Overcash, Concord, N. C., R. F. D. No. 2, Cabarrus county.

Would say in reply it cost \$18 per acre (to drain our land), and that it will pay you to dredge it if the stream is not too large. I went to see several areas that had been dredged before I would dredge.—Chas. A. Fisher, Concord, N. C., R. F. D. No. 1, Cabarrus county.

I was taxed on 65 acres of class "A" and 32 acres class "B," and my drainage bill was \$1923. This land for the last 30 years has been almost worthless, used for pasture and swamp hay. I succeeded in getting 30 acres planted in corn, which will yield 1200 bushels of corn. I have also made 106 loads of hay on what I did not work; this hay would have been worthless without the ditch.—J. E. Rankin, Concord, N. C., R. F. D. No. 2, Cabarrus county.

Our ditch was cut too late to get our lands in condition in time for a good crop, and some of it was poorly prepared, but most everyone is well pleased, and it has opened up a fine body of corn land, and I believe our district will raise 10,000 bushels more corn than the same land raised without the drainage.—John P. Allison, Concord, N. C., Cabarrus county.

If our land had not been drained we would not have gotten anything off the bottom this year. I have fine corn and hay. Our "A" grade (land) was \$23 (drainage tax). I think drainage is the one way to work the bottoms. We are all pleased with our drainage.—G. M. Taggart, Concord, N. C., R. F. D. No. 2, Cabarrus county.

In the past four years I have spent about \$5000 for drainage. I consider the money well spent, and if I had the work to do over again I would do the same as I did.—Geo. P. Wadsworth, Charlotte, N. C., Mecklenburg county.

I represent a plantation that was recently drained in which there was approximately 100 acres of bottom land. This land, prior to the draining, was not worth \$1 per acre, but since it was dredged the land today could not be bought for \$200 per acre. The entire drainage cost was approximately \$1300, and we are sure that we have a benefit of not less than \$15,000.—E. R. Smith, Charlotte, N. C., Mecklenburg county.

It became necessary for me to become one of the owners of a 400-acre farm which is situated on McDowell Creek, in the northern section of our county—Mecklenburg; 75 acres of bottom land were densely covered with briars and willows. We decided to clear away all the growth for the purpose of making pasture. In the dry season of August I put the laborers to work, and in many places they found the ground so wet and miry that it was impossible to work. A ditch was dug and the land cleared; 4000 bushels of corn were raised on the 75 acres. From the standpoint of health the drainage has proved to me that it is a success, but even more so as an investment.—S. W. Dandridge, Charlotte, N. C., Mecklenburg county.

My farm in southwest Rowan county contains something over 400 acres, with Still's Creek running through at least 65 acres. I was unable to mow about one-half of it; the balance was to pasture, and wet at that. This land only gave me hay before this district was dug. I think I am safe in saying it has added at least 50 per cent. to my farm, and I am sure the 65 acres would bring \$100 per acre.—Geo. M. Phifer, Charlotte, N. C., Mecklenburg county.

I am quite familiar with the work that has been done, and it was done, some of it, at my instance. One farmer

on Third Creek two years ago made about 4500 bushels of corn where he had been making none or next to none. Another made 1700 bushels of corn. I think it pays well to dredge these streams and reclaim the lowlands.—E. S. Millsaps, District Agent, Statesville, N. C., Iredell county. There have been two creeks, Long Creek and Crowder Creek, in Gaston county, dredged in the last few years. These lands were almost worthless before they were drained. Now they are in cultivation, and some of the farmers claim to be making from 50 to 100 bushels of corn per acre. Our assessments are \$15 per acre. The health of the community has also been greatly improved by getting clear of the chills and fever.—E. L. Wilson, Gastonia, N. C., Gaston county.

Our land was not worth over \$10 per acre before it was ditched, and now what has been sold since has brought \$100 per acre, and very little has been sold at that price. I am getting about 50 bushels of corn per acre on all I have cleaned up. It will have cost us about \$20 per acre.—W. R. Rutledge, Stanley, N. C., Gaston county.

The landowners on the upper end of the creek made more (the first year) than enough corn over and above their expenses to pay their entire dredging bill. Where they had been making 200 or 300 bushels, and that only occasionally, and a lot of muddy hay, they gathered 1000 bushels (of corn) each last year. Where our land was practically worthless before we ditched, you can't buy an acre for less than \$100 per acre now. Our dredging cost us approximately \$17 per acre.—T. L. Ware, Mt. Holly, N. C., Gaston county.

The reports of what has been accomplished in the swamp areas were very similar, as far as benefits derived, to those for the Piedmont section. One great difference, however, that was noted in connection with drainage work in the Piedmont area was that lands there are owned in smaller amounts and owned by those who expect to cultivate the land after it is reclaimed, so that as soon as the dredging is completed there is someone to at once cultivate the land. On the other hand, in the swamp districts, where the land is owned in large areas, it is necessary to bring in settlers before a considerable amount of it can be cultivated.

An interesting report was made by C. W. Hodges, general manager of the Southern Drainage & Construction Co. of Kinston, N. C., in regard to the method they have employed in accomplishing the drainage of certain areas of swamp lands in Eastern North Carolina. In part he said:

"There are thousands of acres of land in this section of the State considered worthless by the landowners in its present state. In a great many instances they own large tracts of land which they do not care to put into a regular drainage district organized under the laws of the State and pay taxes for the improvement, but they are willing to give a portion of this land which they own to some person, firm or corporation who would go in and develop the property along these lines. The landowners figure that the land in its present condition being worthless, they have all to gain and nothing to lose by the proposition, and in this way thousands of acres can be reclaimed in Eastern North Carolina without the regularly organized district.

"C. G. Elliot of Washington, D. C., has been our consulting engineer on the proposition which we have undertaken, and Mr. Elliot pronounces it most unique.

"We have several thousand acres of land in the counties of Pitt, Beaufort and Craven which we are dredging for a portion of the land involved. We are getting along fine with the work, and have great confidence in future developments along these lines."

The secretary of the association, Joseph Hyde Pratt, announced that at the present time there were 69 drainage districts which had been considered in the overflowed areas of the Piedmont region and 64 districts in the Coastal Plain region of the State. While a few of these districts had failed, and some were still in progress of organization, yet a sufficient number of them had been completed to warrant him in stating that the State had already derived a benefit of \$50,000,000 as a result of the reclamation of these swamp and overflowed areas of the State. The reclamation represents an area of approximately 1,000,000 acres. The greater portion of this land was of but little value, if any, for agricultural purposes before it was drained. The cost of the drainage work varied in the Piedmont section from \$13 to \$25 an acre, and in the swamp section from \$4 to \$7 per acre.

Pulpwood in Swamp and Reclaimed Swamp Land.

The secretary also brought out in his discussion the fact that enforcement of the State forest fire law is a primary importance to those who are interested in drainage districts of the State. He stated that swamp lands are not generally considered susceptible to fire, and the connection may not at first sight be obvious.

The establishment of drainage districts means the making available for agriculture of large areas of swamp land and the necessary throwing upon the market of

large quantities of swamp timber. In Eastern North Carolina probably 90 per cent. of such timber is gum, for which, even though much is now cut for lumber and veneer, there is as yet but a limited market. The recent demand for timber for paper pulp throughout North Carolina is opening up another and very important market for gum timber, and, as small sizes are just as valuable as the large timber for this purpose, this use for gum will soon become general and undoubtedly very profitable.

Capital is now seeking investments in North Carolina gum lands, with the object of locating pulp mills here. The State Geological and Economic Survey has on file a number of letters from different parts of the country inquiring about suitable sites for such mills. That the interest is real can be seen from the fact that two exhibits of pulp wood were made at the State fair, one by the Belhaven Board of Trade and the other by parties who are endeavoring to bring a pulp mill to Wilmington. The journal, "Paper," the official organ of the Technical Association of Pulp and Paper Industry, also sent an exhibit, which unfortunately arrived too late to be shown.

The manufacture of pulp requires a very large investment, and capitalists are unwilling to locate a mill where there is not a good prospect of a permanent supply of timber. Swamp land which is to be drained and become agricultural land may be able to supply mature timber for a number of years, but the supply will run out; so that some other source of supply is necessary. This may be found in the poorer pine lands of the region—those which have been cut over and are now, owing to the frequently recurring fires, almost bare of young growth. Were fires prevented a crop of pine would soon cover such lands and a perpetual supply of pulp wood timber would thus become available in from 20 to 30 years. Some pulp mills desire to purchase such lands in order to be assured of their supply, while others are content to know that nearby landowners are preparing to supply their permanent demands. Fires in Eastern North Carolina have destroyed and are still destroying the greater part of the young pine growth, but as soon as this can be prevented these poorer lands can be made to pay well in the production of pulp wood. It is only where the assurance of such a permanent supply can be secured that pulp mills can be established, and for this reason it is very greatly to the interest of owners of swamp timber to see that the nearby pine lands are protected from fire.

The North Carolina Drainage Law.

One session was devoted to a discussion of this law, and it was presided over by M. W. Thompson of Greensboro. This drainage law was discussed particularly by John H. Small, Congressman from the First North Carolina District; Bruce Craven, attorney, of Trinity, Craven county; J. H. Pratt, State geologist; M. W. Thompson of Greensboro and others.

Mr. Small stated that the North Carolina drainage law had worked well as a whole, though it has been frequently charged with a defect of clumsiness. This fault, he explained, is due to the basic principle in the laws of the State that where a public burden is impressed upon property the owners of that property must be given every opportunity possible to preserve his inherent rights. This has quite naturally made necessary in the operation of the law a great amount of what might be termed "red tape" in the organization and perfection of a drainage district. Some of the amendments he suggested were:

(A) For a reassessment of the drainage tax where tracts of land incorporated in a district are transferred, through sale or otherwise.

(B) For increasing the number of classifications of land from six to eight, that the assessments may be the more equitable.

(C) For specifying a definite term of office for the drainage commissioners and providing for a fixed salary for the chairman of each commission and a per diem for the other members.

Mr. Craven has had a great deal to do with purchases of bonds, and particularly drainage bonds, and stated that these drainage bonds are not held in as high esteem by buyers as bonds of other classes. He stated that the drainage bonds did not bring the price that they should, and attributed this to the fact that the assessed valuation of the lands in a district before drainage is in most cases equal to but little more than the amount of the

bond issued, although those who have studied the drainage problem know that the bond money would be spent in the drainage of these lands and that after drainage they are increased many fold in value. Mr. Craven suggested, as a solution to the difficulty, that the county in which the bonds are issued should officially vouch for them, assuming obligation for them after the assets of the district are exhausted, thereby making them virtually county bonds or let the county take up the district bonds and hold them and issue straight county bonds in equal value for them. Such county bonds would sell at a premium, interest charges would be less and the cost to the drainage district would thereby be reduced. While the county in this case assumes obligations for the bonds, yet on account of the increased value of the land in the district the county is amply protected from ever having to pay for any drainage bond, as the land in the district is collateral for the bond.

Mr. Pratt called attention to the naming of the drainage districts, and suggested that all those who are interested in the organization of drainage districts should see to it that the districts are named after the county instead of being named after the swamp, so that the bonds would be known as Cumberland County Drainage District No. 1 bond, instead of Flea Hill Drainage District bonds, arguing that the above bonds being of equal value of one carrying the county name would by many buyers be purchased in lieu of the one bearing the name of Flea Hill Drainage District bond. This also seemed to be the census of opinion of attorneys and bond buyers attending the meeting.

Discussion of Tile Drainage.

One of the most interesting sessions of the convention was the one devoted to the subject of tile drainage, its need and what it accomplishes. This session was presided over by Prof. M. E. Sherwin of the A. and M. College.

Harry Cowley of Edgecombe county gave a very interesting talk on the history of tile drainage. He is a native of England, and was familiar with drainage in that country before coming to the United States. It was brought out that Mr. Cowley and his brother are the only two experts in the State who devote their full time to the laying of tile.

H. M. Lynde, senior drainage engineer of the United States Department of Agriculture, discussed some special problems in tile drainage. Some of the questions he discussed were as follows:

1. What kind of underdrain to use.
2. Shall cement or clay tile be used?
3. Is it best to lay tile in old open ditches?
4. How to prevent fine sand or silt from entering the tile.
5. Laying tile through quicksand pockets.
6. How to drain springs and seepage areas.
7. How to drain depressions which have no natural outlet.
8. Will tile become obstructed with roots?
9. How to drain farm premises, such as cellars and stock yards.

One point brought out in Mr. Lynde's paper that is well worth comment was in regard to drainage of farms by open ditches. His discussion showed that in the end the tile drainage was cheaper, eliminated the eyesore of the open ditches and returned to cultivation the land occupied by the open ditches.

F. R. Baker, drainage engineer of the North Carolina Department of Agriculture, took up particularly the question of the drainage of hillsides, discussing the question under the head of "Erosion and Its Prevention." He brought out conclusively the value of terracing in the reclamation and preservation of our slopes. Sufficient attention is not given to this subject, he declared, and issued this warning: "For three centuries slopes not protected have been destroyed, and the natural question is, How will our slopes look after three centuries more of corn and cotton culture? Public sentiment should be awakened to the seriousness of the problem and the landowner brought to realize the importance of the increased efforts of control."

T. Y. Blanton, a senior of the A. and M. College at Raleigh, made a very instructive and interesting talk on the method of laying tile which has been employed on the A. and M. College farm, illustrating his talk with charts. Mr. Blanton was selected to attend the convention on account of his standing in this course at the college, and the agricultural club of the college bore the expenses of his trip.

Tile drainage, and the elimination thereby of the

open-ditch system, was discussed by a great many of the delegates present at the convention, and many interesting facts were brought out in regard to the value of tile drainage. Reports from many farmers present who had done more or less tile drainage on their farms showed the favorable results that had been accomplished by such drainage.

Prof. Wm. R. Camp of the North Carolina Experiment Station and Extension Service, stated that under the system of banking in vogue in America bankers did not want long-term loans on farms, but that the Federal farm loan act will remedy this condition by providing the farmer an opportunity to obtain loans to as much as 50 per cent. of the value of his land for terms ranging from 5 to 40 years. Under this act a farm loan board is created, which will place 12 land banks in as many districts which should have a capital stock of not less than \$750,000.

Mr. Camp explained in detail the operation of the law, and pointed out the benefits that a farmer could derive from this act in connection with the improvement of his farm, particularly in connection with tile drainage. It was also brought out that it would be possible for certain drainage districts to be organized and the drainage carried on from money borrowed from the farm loan bank. This would mean that it could be accomplished at considerably less cost than at the present time. This could not be done, however, where the land was owned in large bodies, the owner of which expected to sell the land at a profit after the drainage had been accomplished.

One particular point brought out by discussion was the fact that it was impossible to get competent men to lay tile when needed. At the present time there are only two men known in North Carolina who are competent to supervise the laying of tile. These are the Cowley brothers, already referred to. There is waiting to be laid in Beaufort county 100,000 feet of tile, and no one to take charge of the work. At the present time the Cowley brothers are busy laying 50,000 feet of tile in Edgecombe county.

Remarkable interest has been aroused in North Carolina in the use of tile in draining farms. Many mistakes have been made in laying tile on account of the farmers being unable to get competent men to supervise the work for them.

In order to still more widely call attention of the farmers of the State to the need of tile drainage, the association offered two prizes, one of \$10 to the farmer who made the best report of what he had accomplished by tile drainage, and another award of a gold medal to the boy who submitted the best report on how to tile drain a field. There were 10 reports submitted in competition for these prizes. A. L. French of Rockingham county won the \$10 cash prize. He reported that he spent \$28 an acre in drainage, and that his first year's profit from the results amounted to \$38 per acre. Others to submit reports for these prizes were D. H. Westbrook of Wilmington, E. M. Dobson of Greensboro, who stated his tile drainage cost him \$15 an acre and had greatly increased the yield of his corn crop; J. H. Terry of Rougemont, Durham county, who stated that the increase in his crop had paid for his drainage the first year, and E. L. Holt of Greensboro, Guilford county, who stated that his crop yield was more than double, due to the tile drainage.

The gold medal was won by Lawrence L. Connolley, Ledger, N. C. Others who contested for the award were Wm. Page, Jr., of Morrisville and John Samuel Hudson of Scotland Neck.

All the papers submitted were excellent, and the committee in making the awards declared that they were so close that it was very difficult to make a decision. Prof. T. E. Browne of the A. and M. College, State agent for the Boys' Agricultural Club, expressed appreciation of the offering of the prizes to the boys, and said that had he known it earlier he would have worked through his clubs for a wider interest and more eager competition. He stated that next year more boys will compete.

Among the resolutions passed by the convention were the following:

We urge upon the intelligent and progressive citizenship of the State a continued interest in the work of the association, particularly by attending its sessions and participating in the educational processes intended to extend the benefits of drainage to every locality.

We commend to the Legislature of the State due consideration of the importance of maintaining a wise and workable drainage law, and we express the hope that cer-

tain amendments which will be proposed to the Legislature at the coming session of 1917 will be promptly enacted into law. To this end we urge the association at this meeting to authorize and direct the legislative committee to hold a meeting in the city of Raleigh during the coming session of the Legislature at such time as may be designated by the president and secretary of the association for the purpose of presenting to the appropriate legislative committees the necessity for these amendments and their enactment without material change.

That the president and secretary of the association be requested to exercise unusual efforts by way of publicity and correspondence to secure a large and representative attendance of citizens at the next annual meeting of the association.

Officers elected for the coming year are as follows: President, M. E. Sherwin, Wake; secretary-treasurer, Dr. Joseph Hyde Pratt, Orange; first vice-president in charge of district drainage, D. B. McNeill; first vice-president for farm drainage, H. M. Lynde; county vice-presidents, P. H. Johnson, Beaufort; W. F. Aberly, Craven; H. Cowley, Edgecombe; Dr. C. A. Statesbury, Hyde; Lovitt Hines, Lenoir; V. T. Boggett, Sampson; J. B. Sellars, Robeson; F. R. Baker, Wake; Bennehan Cameron, Durham; Miss H. M. Berry, Orange; W. C. Boren, Guilford; N. L. Cranford, Forsyth; Chap Bodenheimer, Stokes; W. D. Alexander, Mecklenburg; H. B. Craven, Buncombe; Bruce Craven, Randolph; J. L. Becton, New Hanover; O. L. Clark, Bladen; J. A. Brown, Columbus; W. A. Brown, Pender; Hersey Everett, Cumberland; J. H. Stallings, Wayne; R. L. Rockett, Catawba; E. Oscar Randolph, Alamance; J. A. Scott, Cabarrus.

IMPROVED STEAMSHIP SERVICE FOR FLORIDA PORTS.

New Line Between Tampa and Cuba—Additional Sailings Between Jacksonville and Nassau.

Jacksonville, Fla., November 27—[Special.]—It was announced here today by W. S. Hiland, president of the Florida Soft Phosphate Co. of Ocala and New York, that a new steamship line would be inaugurated from Tampa to Havana, Cuba, on December 6, and that enough tonnage to make the line a paying proposition from the start had already been assured. The company, which is a subsidiary company of the Florida Soft Phosphate Co., has completed the purchase of two steamers with a net tonnage of 1700 tons, which are now plying the Great Lakes, and which will be brought through the Welland Canal on December 5.

In speaking of the new line, Mr. Hiland states that arrangements were completed with Vice-President Charles R. Capps of the Seaboard Air Line Railroad to handle the majority of the tonnage into the port of Tampa and for the use of the Seaboard docks in that city. He also states that docking facilities have been secured in Havana. The vessels will carry passengers as well as freight, and the company expects to add to their number of vessels as soon as possible.

Steamship service twice a week will be inaugurated between Jacksonville and Nassau by the Ward Line at once, according to the announcement of J. D. Bahner, general passenger agent for the Florida East Coast Railroad Co., who is in receipt of a communication from W. C. Pantou, general passenger agent of the Ward lines.

The weekly sailings will be on Mondays and Thursdays, and is something Jacksonville has needed for a long time. It is understood the Ward Line will use the new downtown docks of the municipal docks, alongside the docks of the Clyde Line.

The Cotton Movement.

In his report of December 2 Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight for four months ending the close of November was 7,097,824 bales, an increase over the same period last year of 1,464,430 bales. The exports were 2,467,472 bales, an increase of 675,342 bales. The takings were, by Northern spinners, 1,223,587 bales, an increase of 184,729 bales; by Southern spinners, 1,658,738 bales, an increase of 344,216 bales.

South Has Great Opportunity in Chemical Exposition of 1917

Additional letters from leading chemical and geological experts and railroad officials voice the sentiment that the South cannot afford to overlook the opportunity for a full and complete presentation of its varied and abundant natural resources at the next Chemical Exposition, to be held in New York in the fall of 1917. All interests, and the railroads particularly, have here an unrivaled opportunity for advertising the great wealth of raw materials the South contains, and it is urgently proposed that no time be lost in laying plans for a complete and impressive exhibit of these resources.

Obvious Excellence of Plan Should Command United Support of South.

Carolina, Clinchfield & Ohio Railway.

New York, November 25.

Editor Manufacturers Record:

Regarding next year's Exposition of Chemical Industries, the obvious excellence of the plan should bring the entire South to its support. Such an exposition would furnish the best possible facility to demonstrate the merit of Southern resources and opportunities in an effective way. The great value of such an exposition seems to me lies in the fact that it makes a direct appeal in a special way to each particular line of industry.

Mark W. Hutton
President.

Norfolk & Western's Commendation of Chemical Exposition Plan.

Norfolk & Western Railway Co.,

Norfolk, Va., November 27.

Editor Manufacturers Record:

Relative to the National Exposition of Chemical Industries. I quite agree with you that next year there should be devoted a large space to the resources of the South. Just how this installation should be made is problematical. My experience has been that some individuality should be given to the different States, and perhaps to the railroads. Anything, however, that will bring to the attention of the consumer the many opportunities along this line will prove to be a step in the right direction.

Along the Norfolk & Western Railway is a diversified chemical industry, and better still a diversified line of minerals, which, if properly developed, will bring about a wonderful appreciation of the resources of the South.

I feel confident that if this exposition is properly handled and the great potentialities of our territory advertised we real soon will find it responding to the touch of capital and development will follow, which will be rapid and satisfactory.

J. H. Farnham
Agricultural and Industrial Agent.

Importance of Comprehensive Display of South's Resources at Next Chemical Exposition.

Department of the Interior,
United States Geological Survey,
Division of Mineral Resources.

Washington, D. C., December 2.

Editor Manufacturers Record:

In its appeal to the railroad and industrial pioneers of the South for a comprehensive display of the varied industrial resources of this great region at the Chemical

Exposition in New York next September the MANUFACTURERS RECORD has taken a timely and commendable stand. The sooner the opportunities for publicity offered by the exposition are realized by prospective exhibitors the more thorough and comprehensive will be the exhibits made, as time is a vital factor in the conception and execution of any exhibit that will attract attention and leave a lasting impression.

Too little, I fear, have the promoters of industrial expansion in the South appreciated the type of audience that may be reached at a chemical exposition. Few people visit an exposition of this kind for entertainment. Nearly all who go attend for the purpose of learning not only what progress is being made in methods and equipment for industrial development, but in what localities the natural resources are most abundant and most easily accessible to supply the basic needs of new industrial projects.

Rich as it is in sources of undeveloped power and mineral wealth, the South can ill-afford to miss another opportunity to reach in the most direct manner possible the engineers and thoughtful investors on whom its future development must depend.

John D. Mortimer

Geologist in Charge Petroleum,
Natural Gas and Asphalt Resources.

An Exhibit of Southern Resources Should Be Made at Chemical Exposition.

FRANK S. WASHBURN, New York City.

Editor Manufacturers Record:

I have read with interest the article appearing in the MANUFACTURERS RECORD of November 2, entitled "Next Year's Chemical Exposition Will Be South's Great Opportunity."

The industrial attributes of the South and its possibilities are, compared with those of other great sections of this country, relatively unknown to producers and investors. The South has been passed up in a way, and for reasons that are difficult to fathom. The present practical concern of the South is to get the facts of its unusual natural resources, climate and soil before the active doing and well-to-do people of other sections. This suggests the desirability of presenting these advantages as a Southern exhibit at the next Chemical Show, to be worked up, fostered and supported by Southern subscriptions.

There has lately been a very excellent example of what Southern energy in this direction can do in the work of the Muscle Shoals Association, which is presenting for the attention of the country the industrial advantages of Northern Alabama as relating to the potential water-power on the Tennessee River.

Frank S. Washburn

Lithographed Tin and Pasteboard Wanted.

AUGUSTIN MUNOZ, P. O. Box 2334, Havana, Cuba.

I would like to get addresses of manufacturers of lithographed tins for packing and canning conserves, food products, etc.; firms in export trade who can give prices that compete with those of local manufacturers. I would like to reach one or two exporting manufacturers of pasteboard (press board), usual kind, for drying vermicello (macaroni). A concern is already in operation here making this product, and would be able to consume a large quantity if quality and prices are suitable and justify it, apart from the fact that sales could naturally be made to other manufacturers.

The Sulphur Situation in Culberson County, Texas

By WM. B. PHILLIPS, Austin, Tex.

A month's stay in the sulphur district of Culberson county, where the chief developments are taking place, has enabled me to renew my acquaintance with conditions here and to gain additional information in regard to the origin of the deposits and their probable commercial importance. I first visited the district in 1901, returning in 1902 and again in 1904, so that I have had unusual opportunities for observing the situation at intervals of several years.

In 1902, and while I was director of the University of Texas Mineral Survey, there was published Bulletin No. 2 of that survey, entitled "Sulphur, Oil and Quick-silver in West Texas (Trans-Pecos Texas)." This bulletin contained the results of personal observations made at and prior to that time, as also the reports of Dr. Eugene A. Smith, State Geologist of Alabama (originally published in Science), and the report of Mr. E. M. Skents, El Paso, prepared for the bulletin. This publication has long been out of print. In Bulletin No. 9 of the survey alluded to, Mr. George B. Richardson of the United States Geological Survey, under a plan of co-operation, gave his views concerning the district. This publication was entitled "Reconnaissance of Trans-Pecos Texas North of the Texas & Pacific Railroad." It was a valuable contribution to our knowledge of the country, but it also is out of print, although there are still at the University of Texas, Austin, some copies of the geological map prepared for the report.

The Bureau of Economic Geology and Technology, University of Texas, under Dr. J. A. Udden, director, now has two geologists in this district, Dr. Emil Bose, formerly geologist for the Mexican Government, and Mr. E. L. Porch, Jr., San Antonio, a graduate of the Michigan College of Mines and connected with the bureau for some time.

Gradually we shall be able to arrive at some definite conclusions respecting the geological structure of the area involved and the influence this structure may have upon the location and continuity of the sulphur deposits. Personally I do not think that sufficient development work has been done to allow one to express anything more than a tentative opinion concerning the commercial aspect of the matter. The geology and the topography, past and present, may be worked out with a fair degree of accuracy now, although some additional help will be afforded in this direction from the study and correlation of results of borings, shafts, pits, etc., as also from the chemical analysis of more or less deep-seated waters.

As to the origin of the sulphur, I find myself unable to agree with the opinion expressed by Richardson and some others that the deposits of sulphur are due to alteration of gypsum. The hypothesis is ingenious and, of course, deserves due attention, but I do not think that it can apply to any considerable deposits in this district. It seems to me that for the most part the sulphur and the gypsum are of synchronous origin and that they have come about through the action of more or less heated alkaline waters carrying various sulphur compounds, chiefly sulphuretted hydrogen and such like substances of relatively easy decomposition, on the magnesian limestones of the so-called Rustler formation. These thermal sulphur-bearing waters produced the gypsum by chemical action on the magnesian limestones and at the same time deposited the crystalline and the amorphous sulphur as part of the same reaction that gave rise to the gypsum.

I do not mean to say, and must not be understood to say, that all of the gypsum in this area has been produced in this way, but I believe that the gypsum which immediately is in association with the sulphur has arisen in this manner. We do not yet know how thick the gypsum is in the sulphur district, but five miles southwest of the holdings of the Michigan Oil & Sulphur Co. (Sections 15 and 16, Block 110) the gypsum is known to be about 1800 feet thick. The deep well (2265 feet) that was bored by the Texas Petroleum Co. near the north line of Section 25, Block 110, showed

that the gypsum there was in excess of 1800 feet in thickness. This is known as the Rustler Springs well or the Troxel well. It produced a little oil and gas. It is the only deep boring anywhere near the sulphur district now under consideration, and is about five miles southwest of the present southwest extension of the sulphur district that begins near Maverick Springs, Sections 17 and 18, Block 45.

If the view that the sulphur and the immediately associated gypsum are of synchronous origin, derived from dolomite through the action of sulphur-bearing waters, be correct, we may expect to find four principal conditions in this district:

First—The sulphur deposits will be highly localized.

Second—The chief deposits will be offered at or near the original source of the sulphur-bearing waters.

Third—Additional but smaller deposits will be found along the old drainage.

Fourth—The presence of sulphur-bearing waters, smelling strongly of hydrogen sulphide and even now depositing thin scums of sulphur, cannot be taken as indicating the existence of workable deposits of sulphur, especially if they are drainage waters from a higher level.

These four considerations must be borne in mind by every prospector or development company.

Prospecting here is a difficult undertaking. There are but few surface indications, although the so-called "brisquette" is sometimes used. This is an orange or orange-red discoloration of the less compact surface gypsum or gypseous soil, but is not always a reliable indication of sulphur. Many borings, shafts, pits, etc., will have to be sunk on any given property before reliable estimates of tonnage can be given.

As I see the matter now, prospecting for sulphur here is much like prospecting for brown iron ore in Alabama, Georgia, Tennessee, Virginia, Kentucky and East Texas. As the saying is, the pay material comes and goes. It pinches out here, it disappears there, it diminishes in quality yonder. The prospecting pits, etc., must always be kept ahead of the workings.

In some favored localities workable sulphur occurs at and near the surface and extends to the bottom of 40-foot pits. Native highly crystalline sulphur also occurs near the surface in close association with well-developed gypsum crystals, even on these crystals. Twinned but small gypsum crystals are also found with the sulphur.

It is to be observed particularly that there are two kinds of inflammable gas found in some of the pits—a natural gas, odorless, and a hydrogen sulphide gas, mixed with natural gas. Both of these will and do explode under proper conditions. At one of the pits a flame of natural gas, carrying a little hydrogen sulphide, burns freely from the end of a pipe driven in below the bottom of the pit. A curious circumstance in connection with this is that, at times, the flame goes out and the current sets in the opposite way. The current of gas flows out and then flows in. No explosion follows upon the reversal of the direction of the current of gas; the flame simply goes out and a light held at the end of the pipe is drawn inward. After a while, and at no certain interval, the gas will flow out again and can be ignited as before.

One company is now producing a good quality of sulphur, the Michigan Oil & Sulphur Co., operating on Sections 15 and 16, Block 110. The steam-extraction process is used, the mine cars going direct to the extractor. Care is given to the loading of the cars so that not too much fine material shall go to the extractor, as the recovery of sulphur from such stuff is not very good.

In matters of this kind, where one has to deal with material from which it is difficult to extract all of the valuable product and with fine stuff which has to receive its own proper treatment, one may well consider what is workable ore. It is here that market conditions, present and prospective, play so important a part. With sulphur at its price today, workable ore is a very different thing from what it would be if the market price for sulphur were, say, \$20 a ton. The meaning of the term "workable ore" depends not only on the prices of

the products to be obtained from it under present conditions, but on what these prices are likely to be during the life of the investment. The definition varies also with the progress of the science of preparation and extraction, whether strictly metallurgical or otherwise, for countless thousands of tons of ore are now profitably treated that were of little or no value a few years ago.

If such and such a proportion of the sulphur contents of sulphur ore remains in the cars after the extraction process is completed, and if such and such a proportion of the ore in place is represented by "fines" that go to the extractor, either not at all or in small quantities, then the workability of the ore is impaired to this extent. The workability of the sulphur ore in this district today is a certain figure minus the amount of sulphur left in the material from the extractor and minus the value of the "fines" not sent to the extractor at all. It all depends, as the saying is, on what you mean when you say that you have so many thousand tons of workable ore. It might be a pious idea to work over a lot of it before venturing on such uneasy waters.

From the standpoint of recovery, I doubt if the sulphur industry today is in a satisfactory condition. Easily melted as sulphur is by steam under 40 to 50 pounds pressure, yet in some cases a considerable amount of sulphur is left in the ore. It is not extractable by steam as it is ordinarily used. This is true not only of the sulphur in the lump ore, but also and particularly of the sulphur in certain kinds of "fines." Such material might be used in the manufacture of sulphuric acid or sulphite for the treatment of wood pulp, etc. Where steam is cheap such losses may be borne, but where steam is costly every pound of sulphur must be recovered, within the limits of profitable operations.

There is a good deal of sulphur in Culberson county, and some of it can be cheaply mined. It has so much in its favor. What the cost of extraction will be and what the costs of transportation remain to be seen. The nearest railroad point is Orla, a small station on the Pecos Valley Railway (Santa Fe), 41 miles north of Pecos. To the nearest sulphur deposit the distance is 15 miles, and the road is none of the best. The cost of haulage, by motor truck and Troy wagons, to Orla may be taken at \$1.50 a ton. Unless considerable tonnage is offered, it would not pay to construct a branch railroad from Orla, as the cost would probably be not less than \$10,000 a mile, exclusive of equipment.

The nearest base of supplies is Toyah, 35 to 40 miles, or Pecos, 45 to 50 miles, on the Texas & Pacific Railway. Boiler water is scarce. The present fuel is scrub cedar hauled for 8 to 10 miles. This wood makes a hot fire, but soon burns up.

Following is a list of the principal localities in Culberson county where sulphur has been found in greater or less quantities:

Sections 17 and 18, Block 45—Maverick Springs. The Kyle property is in Section 18.
Section 2, Block 111—The Dot property is here.
Sections 15 and 16, Block 111—The Michigan Oil & Sulphur Co. is here, as also the Virginia (Felch).
Section 14, Block 113—W. H. Hicks.
Sections 7, 8 and 10, Block 42—Pat. Lone Wolf and Golsen.
Sections 10 and 15, Block 114—Cooksey.
Sections 10, 11, 15, 19, 22 and 23, Block 115.
Section 1, Block 46—University land.
Section 48, Block 62—Texas & Pacific Railway land.
Sections 4, 5, 9, 10 and 24, Block 109—Nelson drains are in 8 and 9.

In Reeves county, Section 17 or 9, Block 59, near the old Hulen, White & Ross shallow oil wells, and within a short distance of the deep well (4100 feet) bored by The Texas Company for oil.

In Culberson county, also in Sections 8, 16, 17 and 18, Block 61. The Grant claims are in Sections 17 and 18, Block 61.

Most of the discoveries so far made are on public school lands, administered by the General Land Office, Austin. A sulphur claim may comprise 40 acres. Mineral lands belonging to the State cannot be bought, but are operated under a leasing system by which a gross royalty of 5 per cent. is payable to the State. The university lands are administered by the board of regents of the University, and the Texas & Pacific Railway lands are administered by the land department of that company.

The prospecting and opening of these sulphur deposits requires considerable capital. This country is no place for a man without means.

In Camp, Sulphur District North of Toyah, Culberson County, Tex., Nov. 22, 1916.

The Dyestuff Industry, Past and Prospective

THE SHARP COMPETITION TO BE MET AFTER THE WAR.

[Special Correspondence Manufacturers Record.]

Washington, D. C., December 2.

As an essential first step toward the establishment of an American dyestuff industry that will render this country independent of foreign manufacturers, the dyestuff census just prepared by the Bureau of Foreign and Domestic Commerce presents a comprehensive survey of the entire subject.

This census gives in detail an account of the various dyes imported into the United States during the year preceding the war, together with the amount and cost of each kind, the object being to place in the hands of American manufacturers the information that would enable them to gauge the normal demand for each individual color.

To what extent American capital and enterprise will respond to the opportunities for building up this most important industry will depend to no small degree upon the protection given by tariff legislation or other Governmental measures. That it will meet with unfair competition on the part of foreign rivals is conceded in the report in its enumeration of the factors bearing upon this exceedingly complicated question. Among these are mentioned such items as the supply of crude materials, the chemists and chemical engineers available, the probable attitude of the European interests hitherto furnishing our synthetic dyes upon the return of normal international conditions, and the "unfair competition" first cited. "First and foremost, however," continues the report, "came the factor of quantity."

From the standpoint of the legitimate scope of the bureau's investigation this statement may be granted. It is interesting, nevertheless, to find in the daily consular and trade reports announcing the completion of the dyestuff census a report from the secretary to the commercial attache of this Government at London, stating that all of the capital stock for "British Dyes, Ltd." has now been subscribed. Additional light on the character of support given by foreign governments, perhaps even more strong in Germany than in England, is thrown by the statement that in "British Dyes" the British Government advances £1 against every similar sum subscribed by the public, and that the Government receives 4 per cent. interest on its investment and the shareholders 6 per cent., which will remain the maximum as long as any part of the public loan remains in the concern.

Accepting with this modification the statement that back of every plan and calculation stands the dominant factor of quantity, the dyestuff census undoubtedly contains the most complete and satisfactory digest of facts regarding the dyestuff industry as regards its possible and practicable development in this country that has yet been made.

At the time of the beginning of the European war there were just seven establishments engaged in the domestic production of dyestuffs in the United States. While the manufacture of coal-tar colors had been in existence in the country for some 37 years, it was of scarcely any importance prior to 1915. The American manufacture was confined almost entirely to the "assembling" into finished dyes of coal-tar intermediaries imported mainly from Germany. Since 1915 the output from the manufacturing establishments here has been greatly augmented, but as a rule the variety of colors has been diminished. In one case the working force is now fifty times as great as it was before the war began.

The complexity of the industry is shown in the statement that there are nearly 1000 coal-tar dyestuffs of recognized standing; that is to say, of which the methods of preparation are publicly known. About twice as many more, of whose preparation or composition little is known, are also regularly manufactured.

In addition to the production of a finished dyestuff, every step between that result and the coal-tar "crude" must be carefully watched, as the various by-products usually possess distinct technical and commercial value. One may serve to make an entirely different dyestuff, another may be the raw material for a medicinal, a

third suitable for employment in photographic processes, and so on. The elements of the manufacturing problem are stated as:

Ten things from coal tar, called "crudes," for the contribution of coal tar to this industry.

These ten things, by the aid of numerous non-coal-tar things, such as acids, alkalies, gases, and the like, are converted into about 300 other things called "intermediates."

These 300 intermediates are "assembled" to form 900 finished products or dyes.

The manufacture of dyes involves a consideration of all the problems that have been mentioned, including the assembling of the requisite capital, the number of trained chemists and engineers needed and the quantities of coal-tar crudes required. These are described as the main links in the chain connecting the gas works and the coke plants yielding coal tar and the gases containing benzene and its homologues, with the multitude of mills and shops in which synthetic colors are employed to produce chromatic effects upon wares of the most varied nature—paper, textiles, leather, wood, ink, varnish, fur, feathers, foods, beverages, etc.

In its statement of imports of artificial colors into the United States the dyestuff census has covered the 12 months ending June 30, 1914—a month before the outbreak of the present war. The entries are found under 5674 heads, each representing a distinct commercial designation, although not necessarily as many different colors, as similar standard dyes obtained from abroad are manufactured by different firms under separate trade names.

The general statements of this character are designed to enable the American manufacturer to make provisions for meeting a definite domestic demand for specific colors without useless experimenting. One large Eastern dyemaker, it is claimed, who saw the report in proof, has saved his firm \$1,000,000 a year by avoiding misdirected effort through the information gained. The same doubtless will be found true of other dyestuff plants already in operation, as well as of those being planned.

In the development of an American dyestuff industry equal to the demands of the country the South will take part, as has been indicated in previous issues of the MANUFACTURERS RECORD. There will be need, however, for legislation of a highly fostering character if the manufacture of dyestuffs here is to be equipped to cope successfully with the highly organized and government-aided foreign manufacturing establishments, which will make a bitter fight for the recovery of their valuable trade in this country when the war is over.

The South's Opportunity to Become a Pulp and Papermaking Section.

Brunswick, Ga., November 29.

Editor Manufacturers Record:

It is with much interest that I have been reading in your splendid magazine of late that the South is at last beginning to realize its possibilities as a papermaking section, and it is still more gratifying to note that the Northern paper men are also beginning to realize that the South has such marked advantages in their line.

As I am a practical pulp and paper maker of some 30 years' experience in all branches of the industry, and have made pulp and paper from all kinds of woods, in both the United States and Canada, I believe that I can write you on this subject with some authority, particularly as I have spent the greater part of the last four years in the South treating both the long leaf and the Jack pine, and I probably understood the handling of these woods as well as anyone.

In the pulp and paper industry of the North I have seen the wood of the Northern paper-making sections disappear almost entirely in some section, both the spruce and the poplar, until at the present time the Eastern mills are more or less dependent on Canada

for their spruce wood for their long fiber and on the South for their gum and poplar woods.

These woods are costing the Northern mills two and three times what they did, say, 25 years ago, and every year they are getting dearer. It is thus a wonder to me that paper men have not opened up mills in the South, where there is an unlimited supply of both pine and gum wood—the best woods in the world for paper—and where it can be had at a cheap price. While it is true that only within the last four or five years has the Southern pine wood been treated successfully for pulp, there is now no question about its quality, and we have at least five mills in the South at the present time making paper from both kinds of pine wood. As to gum wood, it is a known fact that this has taken the place of poplar entirely in many of the Northern mills for the finest grade of book papers during the last 15 years, and this gum is being sent North from Virginia and the Carolinas. This being true, it stands to reason that the proper place to make paper is where the supply of raw material is the cheapest.

Given such an abundance of cheap wood and cheap manual labor and a good climate, with good water, you have everything necessary for a profitable pulp or paper proposition. For example, take the city of Brunswick, where I am at present located. I venture to say that there is no more ideal spot in the country for a fine book paper and pulp mill or a Kraft pulp or paper mill. It is located on tidewater, with mill sites right on the water front, and an abundant supply of both pine and gum wood within a radius of 50 miles that would supply a 100-ton mill for 50 years. Brunswick has good transportation facilities, by rail as well as by water; a climate that is simply fine the whole year around, and with the best of water, and with raw material at less than half the price at which the best located mill in the North can procure it, a pulp and paper mill would be a splendid proposition here. And I expect there are several other places in the South just about as favorably situated as Brunswick.

Then there are the sawmills of the county that burn up every day enough of the very finest kind of pulp wood to keep a good-sized paper mill supplied, and if one sawmill does not have quite enough waste the waste of other mills close by could be procured. Some of the most successful paper mills in the country are those using sawmill waste, and the beauty of this proposition is that this waste if converted into pulp means a fine revenue for the sawmills.

I have been studying the newspaper situation of late as to its manufacture here in the South, and I know that news paper can be made of these Southern woods just as well as from spruce, for by using a soda or sulphate cooked pine wood for long fiber and the gum wood for the mechanical or ground wood pulp, a sheet of news paper can be made even superior to that made from spruce. The essential requirement for a newspaper mill is cheap power, water-power, and where this can be had and with a wood supply like we have in this section a news mill would be a splendid proposition and with a market close by for its product.

I trust that this letter may be read by some of your subscribers who are interested, either in the manufacture of pulp and paper directly, or else by some one who has such a location as I have mentioned as being ideal for some one of the different grades of paper named, so that they may be led to look into the matter very carefully. If there are any who wish further particulars in reference to the advisability of building a pulp or paper mill in the South I shall be pleased to give them all the information I can, or if there are any readers who may question any of my statements as to the use of these Southern woods for the manufacture of paper I shall be very glad to argue it with them and to prove to them that I am right.

A. B. AYERST.

To Mine North Carolina Marl.

North Carolina marl deposits will be developed by the Consumers' Marl Co. of Newbern, N. C. This is a new corporation chartered with a capitalization of \$100,000 by A. J. Joyner of Newbern, S. F. Austin of Nashville, N. C., and W. S. Harris of Wilson, N. C.

B. F. Moore, Box 402, Raeford, N. C., may establish a hosiery mill. He wants data and prices on the necessary machinery.

News and Views from Our Readers

Prosperity Has Come, Not From Politics, But From War.

WALTER E. WINN, Chief Engineer The Winn Engineering Co., Helena, Ark.

For several weeks previous to the national election the editorial columns of your paper were full of overflowing with articles denouncing President Wilson and the Democratic party on account of the enactment of the eight-hour law and other matters, showing the country at large just what your paper stands for industrially, the classes against the masses, and I sincerely hope that you were flooded with protests from the engineers and contractors of the country at that time; for certainly no man has done more to free the engineers and contractors from bondage during the past 50 years than Woodrow Wilson. It is true that under Republican rule, dominated by a few financiers of New York city, we had very prosperous times from 1899 to 1907, but we more than paid for it by the hard times we had from then until 1913, and we reaped as they had sown. Previous to 1913 we engineers and contractors lived in fear and dread of what the powers behind the throne might do, and never knew from one day to the other whether or not there would be any work for tomorrow or not. We bowed and scraped to big business as conducted at that time, and did not own our own souls. Thanks be to God that those times have passed, may their memory be ever kept green, lest we forget.

[Mr. Winn has read the MANUFACTURERS RECORD with small purpose if he labors under the delusion, as he says, that this paper represents the classes against the masses. The MANUFACTURERS RECORD protested with all the vigor at its command against the hold-up of Congress by the railroad brotherhoods, and many of the leading Democratic papers of the country were even more vigorous than the MANUFACTURERS RECORD in denouncing this revolution. The MANUFACTURERS RECORD also republished editorials from leading Democratic papers throughout the South voicing their sentiment in opposition to the surrender of the Government to the Brotherhood.

Instead of being denounced for taking this position, the MANUFACTURERS RECORD was enthusiastically commended by its subscribers in all parts of the South.

The MANUFACTURERS RECORD is, as it ever has been, just as ready to commend President Wilson as it was ready to criticize what we regarded as his serious mistake in surrendering to the railroad men. Individually and through the MANUFACTURERS RECORD the writer has heartily commended President Wilson from time to time during the last four years, and it proposes to continue to do so. At the same time, it expects to criticize him, or any other public man who goes contrary to what it believes to be the best interests of the country. It pursues the even tenor of its way with Democrats and Republicans alike, as it has been doing for more than a third of a century. The prosperity which the country enjoys was not brought about by politics; it is a prosperity that has come from the blood-stained battlefields of Europe, and he who does not recognize this knows very little about world conditions.—Editor MANUFACTURERS RECORD.]

Oil Situation in Shreveport District Reported in Bad Shape.

OSCAR SHANKS, Oil Field Operator Shreveport, La.

The oil business in this part of the country is on the decline, prices are down and production is also going down. The amount of money that has been spent in this section of the country in wild-cat operations, while trying to develop a new pool, has resulted only in finding gas in large quantities, which is practically worthless to the operator because there is no market to consume enough of it to make it profitable for the owners of so many gas wells.

The only prospect that I know of in this State that is not developed and that has been recently discovered is near Monroe, La., where two gas wells have been completed within the last 60 days at a depth of 2300 feet, the gas coming from a white-looking sand. A number

of locations have been made in this locality, and drilling is progressing at various places in this vicinity with the intention of going through the gas sand in the hope of striking oil.

The failure to find oil in this vicinity has cost the operators in the neighborhood of \$4,000,000 for wells drilled, according to the estimate made by expert oil operators here. The effect of this has caused some of the operators to leave this vicinity to look for other fields for investment. Some have located in Oklahoma, while others have gone to Kansas, where more oil is found and better prices are paid than in this locality.

Evidences of Prosperity at Sistersville.

ALFRED JENKINS, Secretary Sistersville (W. Va.) Chamber of Commerce.

There is perhaps no better indication of prosperity in any city than when long-established manufacturers put up additional structures and increase their capacity. In Sistersville an entirely new site has been selected by the Ryan Boiler Works and a new and larger structure contracted for to be erected immediately. The Bellfontaine Steel Works have secured the contract for the iron work, which will include one fireproof building 100x110 feet, with lean-to 30x100 feet. Buildings contemplated will cost \$25,000, and additional machinery \$15,000. About twice the capacity of the old plant is contemplated in the new.

In process of erection now in Sistersville is the city's \$30,000 filtration plant, one residence for W. J. Neuen-schwander to cost approximately \$40,000, a 60x75-foot foundry for the Tilley Reymann Iron Works, two new gasoline plants with estimated cost of \$30,000 each, and several smaller residences.

Within the coming month construction work will be started on the above-mentioned plant of the boiler works, and, although plans are made definite information at this time is not available for the new glass plant to be erected in Sistersville.

The South's New Economic Epoch.

W. W. MORRISON, New Orleans, La.

A new era has arrived in the South. It vastly concerns every phase of Southern life, social, political and economic. Since our interpretation of this new order of things will profoundly affect our judgment of Southern affairs, it seems well to go into a somewhat intimate study of the features which differentiate and distinguish it.

While the prosperity in the South is a part of the prosperity prevailing throughout the nation, its basis is essentially different. Elsewhere prosperity was promoted by the war; in the South it developed in spite of it. It has been the result of an evolution which, through a series of years, brought the people steadily increasing wealth and steadily increasing freedom in the use of their judgment. For it must be remembered that the heritage of poverty left by the war, through the necessities it entailed, crippled the judgment of the Southern people for many years. The men who are now originating and directing the business and industrial policies of the South have been a vitalizing influence in the evolution. Of a younger generation, they are, for the most part, scientifically trained, and are alert and competent students of the problems with which they have to deal.

What has been accomplished is definitely revealed in the astonishing increase in the deposits of Southern banks, as compared with a period so late as 10 years ago, and also the great increase during this time in the percentage of the deposits owned by the agricultural community. The limits of this letter will not permit me to give the figures in detail. They can be had, however, at most any bank, and are both interesting and instructive. The South has now the means wholly adequate to protecting and promoting every phase of its business and economic life, and a trained intelligence wholly adequate to dealing successfully with every situation that is likely to arise. This, I take it, sharply differentiates and distinguishes the new era.

As it relates to cotton affairs, it is clear, since the

elimination of necessity as a factor, that the ability of the South to control the marketing of the crop and the trained intelligence behind the situation dominate every other influence in the market. It seems reasonable to conclude that they will continue to dominate it for many years to come, and perhaps indefinitely. It has completely exploded the time-worn claim that the accumulation of cotton endangered the cotton market, and all such collateral arguments. The logic of events has already proven that it is safer to recognize the potency of these new influences in all our calculations. Especially has this been strikingly demonstrated in cotton affairs.

Old things are passing. The edicts of Rome run no longer. The oracles sit mute and unattended amid the wreck of shrines once sacred to a believing world. The illusions of the Delphic Temple sway the multitude no more. Rated and berated now, a vernal dispenser of subsidized opinions, its utterances are received with jeers of derision by the irreverent crowd. It is an august hour! The masses are reasoning, making their own deductions, drawing their own conclusions. A vast emancipation is at hand. Wholly constructive, it will be translated into a new and mighty empire, conquered by this mighty country, in the domain of the world's potential activities. It is well to remember that the decrees of a royal destiny will appoint no one to a kingly place whose grasp and whose vision do not prove them worthy to bear the scepter and to wear the crown.

It should be kept in mind, since cotton prices passed 15 cents, the market has been a problem without any precedents to guide in its solution. The maintenance of public confidence is vital, and obviously places a heavy obligation on both the broker and the client. They should constantly be on guard against illusions that may lurk in the unusual condition, and also against a reactionary spirit which could easily lead into just as serious errors.

Pearl Button Factory to Be Built at Apalachicola.

J. F. WARREN, Secretary Chamber of Commerce, Apalachicola, Fla.

We would like to call attention to the recent discovery in the vicinity of this city of an unlimited supply of clams suitable for the manufacture of pearl buttons. Arrangements are being made for an organization to gather these clams and later manufacture them into pearl buttons. The chamber of commerce is now securing data upon the cost of manufacturing buttons, and will very probably have in hand the marketing of this product.

This is a new industry for Florida and one that will probably be largely developed.

Hardware, Shoe and Trunk Materials, Etc.

ROMERO HERMANOS, San Francisco de Macoris, Dominican Republic.

We are in search of a manufacturer of elastic webbing for braces and trimmings for same. As far as agencies for factories are concerned, we will give the matter study and will write you in due time as soon as we learn which may be most suitable for this place; for the present we might say that good results can be obtained from the following: Haberdashery; hardware in general; fine skins and furs; materials for making shoes and trunks; printer's ink and printing paper; furniture; extracts for making liquors.

Soap, Textiles, Toys, Etc.

JORGE SALOMON, Casilla Postal No. 56, Mollendo, Peru.

Give me the addresses of companies making cotton textures, drillings and materials for underclothing for ladies and children, toys, soap and similar small articles relating to such a business.

The Iron, Steel and Metal Trades

STEEL MARKET NEARING CRITICAL STAGE.

Export Demand to Determine Steel's Future—Wire Products Again Advanced—Pig-Iron Higher and Active.

New York, December 4—[Special.]—No attempt is made to disguise the fact in steel circles that the steel market is fast approaching a critical stage and prices are now so high that it is believed that it will be practically impossible for all consumers to pay them for their usual tonnages. The majority of prices of finished steel products are now practically nominal. In very few commodities are there any open market quotations at which the ordinary buyer could place his order and have a choice of mills. Each inquiry is being treated separately. The mills refuse to explain their attitude, and much must be left to conjecture. The distance to which they are sold up is not well known, as even the tonnages on the books would not be a criterion when certain reservations are made for certain customers or certain classes of trade.

As each week passes by the steel market, like that of copper, becomes more difficult to analyze and describe. The next test that the market will undergo will probably be the extent to which foreign buying will replace that of domestic consumers. On the whole, export prices are higher than domestic prices. British exports have been decreasing of late, owing to Governmental restrictions, and there is no knowing to what extent this will take place in the future.

As it stands today, the steel market is very strong. Many mills are almost out of the finished steel market, being practically sold up. Car supplies at the steel mills last week were the poorest thus far, but hopes are entertained of an improvement in the next fortnight, owing to the close of the lake shipping season as well as the return of cars to the lines owning them, as ordered by the Interstate Commerce Commission.

The tinplate market last week continued quite firm on a basis of \$7 to ordinary buyers. Still higher prices are freely talked of for export. Independent mills apparently have abandoned their price of \$6, with which they opened the season. The American Sheet and Tin Plate Co., having withdrawn from the market, has no price, although some small tonnages may have been sold recently to special customers at the old quotation of \$5.75. The company's regular quotation on terne plate at \$10.80 is still in vogue.

Rail mills last week closed contracts for 300,000 tons of standard sections for 1918 rolling and shipment, including between 175,000 and 200,000 tons for the New York Central system. For the lines west of Buffalo, N. Y., 60,000 tons will be rolled by the South Chicago and Gary mills. The Chicago & Northwestern Railroad ordered 40,000 tons last week and the Great Northern Railroad placed a fair tonnage with Chicago mills. The open-hearth rails included in these contracts sold at the recent advance in the official base of \$40 a ton.

Additional contracts of shell steel were closed last week by Italy and one or two others of the allied governments. These include ingots, billets and bars for shipment over the second half of 1917, making the total contracts for shell steel taken for such shipment about 700,000 tons. Indications are that within the next few weeks total sales of shell steel, made for delivery in 1917 for export to Europe, will be close to 2,000,000 tons.

Prices of all wire products were advanced early last week. Regular wire products are now \$3 a ton higher, while fence wire is up two points to 53 per cent. off list in carload lots. The regular galvanizing extra of 70 cents per 100 pounds is maintained. The base price on galvanized plain wire applies on 14 gauge and coarser. As spelter has been advancing lately, and seems to be in a strong position, it would not be much of a surprise should the galvanizing differential be increased.

The \$3.20 price of John W. Gates early in 1900 has not yet been attained, but practically all steel products are at the highest level attained in the history of the industry, steel having supplanted wrought iron about a quarter of a century ago. The average price of finished

steel is about \$40 a ton higher than at the low point in December of 1914.

While the general advance in finished steel prices dates from January 1, 1915, the advance in wire products practically dates from July of that year. The market at the opening of 1915 was \$1.50 for nails, and there were two successive advances of 5 cents a keg. The 5 cents came off, later was added, came off again when on July 29, 1915, \$1.60 was again put on, this time to stay. On August 24, 1915, the spread between plain wire and wire nails was reduced from 20 cents to 15 cents, and on May 1, 1916, the spread was further reduced to 5 cents. The present wire galvanizing differential dates from August 23, 1915.

The pig-iron market is as complex and as difficult to analyze as ever. Sellers themselves have no precise knowledge as to exact values from day to day, and simply try their quotations out. If they do not secure an advance price on the day they make it they are likely to secure it within two or three days. The pig-iron advance has been so rapid and has gone so far that it cannot be attributed directly to a shortage, although it is quite possible that one will develop before long. Pig-iron may still advance many dollars, or the advance may stop suddenly. No one in the trade is in a position to give any information whatsoever on this important point. One thing is certain: the market cannot indefinitely continue in the position where all deliveries are substantially the same price. The market is higher than in a generation, and whenever in the past it has reached a high level it has developed a premium on prompt deliveries. Such a development is not to be considered as a sign of weakness, but rather as an indication that the market is getting upon something like a rational basis.

During the past week 1500 tons of Bessemer was purchased at \$30 valley for first quarter shipment, and several smaller lots have gone through at this price. A single carload was sold late last week at \$35. There is no further information to report regarding the basic pig-iron situation. Buyers are not at all liable to pay \$30 or anywhere near that figure until they have first bought all the Southern basic (which is now around \$21 for Pittsburgh delivery) that their practice will comfortably stand. The Italian Government is offering \$35 a ton for 10,000 tons of Bessemer iron for prompt shipment, but the order is going a-begging. Sales of standard low phosphorus iron are reported between \$50 and \$55 per ton.

Buyers of Lake Superior ore have not hesitated to take hold for the season of 1917 at the prices fixed last week, \$1.50 advance over the 1916 schedule. While ore prices are virtually the highest on record, pig-iron prices are the highest since the year immediately following the Civil War, so that blast furnaces are taking smaller chances, perhaps, than are the customers when the latter buy pig-iron for the second half of next year.

(Dealers' average buying prices for gross tons.)

Bessemer billets (nominal).....	\$55.00—\$57.00
Open-hearth billets (nominal).....	55.00—57.00
Open-hearth sheet bars.....	55.00—57.00
Bessemer sheet bars (nominal).....	55.00—57.00
Forging billets.....	55.00—57.00
Wire rods.....	65.00—70.00
Tank plates.....	3.50—4.50
Steel bars.....	2.90—
Refined iron bars.....	2.90—3.00
Rails.....	47.00—48.00
Steel hoops.....	3.25—
Cold-rolled strip steel.....	6.50—7.00
Sheets, No. 28 gauge.....	4.00—4.50
Galvanized sheets.....	5.50—6.00
Wire nails, No. 28.....	3.00—
Cut nails.....	3.00—
Plain fence wire, base.....	2.95—
Barb wire, galvanized.....	3.85—
Railroad spikes.....	2.65—

Pig-Iron.

Bessemer, Pittsburgh.....	\$33.95—\$35.95
No. 2 foundry.....	28.95—30.95
Basic, valley.....	28.95—30.95
Gray forge.....	29.45—30.45
Basic, Philadelphia.....	27.00—29.00
No. 2 foundry, Northern.....	28.75—29.75
Low phosphorus.....	49.00—50.00
No. 2 foundry, Buffalo.....	28.00—30.00
No. 2 South, Cincinnati.....	24.40—25.40
Northern foundry, No. 2, Cleveland.....	27.30—

Scrap-Iron and Steel.

Heavy melting steel.....	\$24.00—\$25.00
Old steel rails, re-rolling.....	24.50—25.00
Old iron car wheels.....	16.50—17.00
Old steel car wheels.....	24.00—25.00
Bundled sheet.....	13.50—14.00
Low phosphorus.....	27.00—28.00
No. 1 cast.....	17.25—17.75
Heavy cast scrap.....	16.50—17.00

No. 1 railroad wrought.....	22.00—23.50
Cast borings.....	10.75—11.00
Machine-shop turnings.....	9.75—10.00
Steel car axles.....	40.00—45.00
Iron car axles.....	40.00—45.00
Railroad malleable.....	17.50—18.00
Stove plate.....	13.00—13.50

Advancing Prices for Iron, Coal and Coke.

Birmingham, Ala., December 2—[Special.]—With all the feverish excitement of the pig-iron market in the South as to the upward trend of prices, the break of two weeks ago—made possible by the undertrailing of one interest in quoting \$19—has not yet been adjusted. The market is very unstable as to prices, some interests quoting and selling at \$20 to \$23 per ton for spot or prompt delivery iron, and some at \$20 to \$22 per ton at the furnace for second half of 1917 delivery. This was the prevalent condition of the market at the opening of the week and up until the middle; then there was a hardening of prices toward the latter part of the week, indicating that between \$21 and \$22 per ton could be had for either prompt or second half iron. Some of the producers report that they are not quoting less than \$23 for any delivery; others report that they are not quoting or selling at all for either prompt or second half delivery. As a matter of fact, there is but very little spot iron to be had, and the producers are beginning to hold more firmly to a stable price.

Men experienced in the iron industry are feeling confident that by the end of the year the base price will be around \$25 per ton at the furnace, and some state that they would not be surprised to see figures around \$30 to \$35 per ton by the end of the first half of 1917. Sufficient raw materials for the blowing in of additional furnaces are becoming scarcer each week. Some of the large iron producers are now repairing some remotely located beehive coke ovens for emergency use. Every indication now points to the fact that sellers are really apprehensive as to the final outcome of prices, and for this reason all seem inclined to hold as much check as possible on a runaway market. However, the control of conditions seems to have gotten far beyond the most powerful factor in the iron and steel trade.

The coal and coke trade of the district seems to have taken on a new aspect, and prices have again soared. There is practically no furnace coke available in the district, and at the present time one of the largest producers is in the open market for a large tonnage. If there was any coke available there would be a willing purchaser at \$4 to \$5 per ton for furnace coke. For whatever foundry coke there is for distribution producers are receiving from \$7 to \$8 per ton at the ovens. There have been several Western smelter representatives in the district the past week seeking round tonnages. They have had to return with their wants unsatisfied.

The old material market has advanced again, and sellers are only quoting on whatever material they have in hand or contracted for on the yards of furnaces and sawmill plants. Quite a new situation has arisen with reference to Southern scrap. Heretofore from 80 to 90 per cent. of the scrap of the immediate territory either moved east, west or to seaport for foreign delivery. At the present time local dealers busy themselves with taking care of local scrap-using plants. The foundries of the district are using whatever scrap they are able to obtain for their mixtures.

The producers of cast-iron pipe have advanced prices \$2.50 per ton during the past week, and report that notwithstanding the advance in price, orders continue to come in for good substantial tonnages. Prices quoted today are as follows per net ton f. o. b. cars at the plants: Four to six-inch, \$37; six-inch and up, \$34, with \$1 per ton extra for gaspipe and 16-foot length pipe.

Following are producers' and dealers' prices per gross ton f. o. b. cars plants:

PIG-IRON.

No. 1 foundry and soft.....	\$22.50 to \$23.00
No. 2 foundry and soft.....	21.00 to 22.00
No. 3 foundry.....	20.50 to 21.00
No. 4 foundry.....	20.25 to 20.75
Gray forge.....	19.75 to 20.25
Basic.....	20.00 to 23.00
Charcoal.....	25.00 to 26.00

OLD MATERIAL.

Old steel axles (net ton).....	\$28.00 to \$29.00
Old steel rails.....	17.50 to 18.00
No. 1 wrought.....	17.50 to 18.00
Heavy melting steel.....	17.00 to 18.00
No. 1 machinery.....	17.50 to 18.00
Car wheels.....	15.00 to 15.50
Tram car wheels.....	14.00 to 15.00
Stove plate.....	12.00 to 12.50
Shop turnings.....	8.00 to 9.00

METAL MARKETS STILL STIMULATED.

Holders of Copper Inclined to Advance Prices on Volume of Inquiries—Spelter Is Firm and Quiet—Little Inquiry for Tin or Lead.

New York, December 4.—[Special.]—While the New York metal markets did not recede last week from their previous firm positions, it was to be noted that consumers were not in the market in anywhere near the same numbers as heretofore. It was not that the metals—copper, spelter, lead and tin—were not in demand, but the scarcity of supplies and the high prices asked had a tendency to drive buyers out of the market to more or less extent.

There were some domestic inquiries in the copper market last week calling for 1000 to 2000 tons for deliveries over the first half of 1917, and some export inquiries for lots of 300 and 500 tons. Most of the latter came through indirect channels and only about one in ten developed into an order. The copper market meanwhile is more or less stimulated, and holders of the metal are inclined to advance prices on the volume of inquiries. In an interview with a prominent producer last week it was pointed out that at the present time it does not seem probable that the world's copper production of 1917 will exceed that of the present year by more than 7 or 8 per cent. "By comparison this year's output will probably not be more than 25 per cent. greater than that of 1915," he said. "Thus, in spite of the remarkable high prices which are being paid, the mining companies apparently have reached the limit approximately of their ability to supply the demand."

The spelter market was in a firm, but quiet, condition last week. There was apparently a little more disposition on the part of producers to sell future metal, but they did not exert any pressure and only quoted against definite orders. The supply of prompt spelter was more plentiful than it was in the week previous, as several dealers commenced to sell metal that was tendered them against November contracts.

The lead market last week was in a purely nominal condition, owing to the refusal of producers and other sellers to make offers, and the nearest approach that can be made to prices is to say that the New York market is between 7.25 and 7.50 cents, and St. Louis 7.15 and 7.25 cents. There was a large inquiry from consumers, and the fact that they cannot take lead offered is making them nervous. The price of the American Smelting & Refining Co., strange to say, remains at 7 cents New York, and this is the price that is settling most of the sliding scale contracts.

Stocks of tin in New York on December 1 were 2850 tons, of which 1945 tons were in store and 905 tons on dock and landing. The deliveries into consumption in America were 3165 tons in November, compared with 6398 tons last June, while the smallest previous month this year was September with 4025 tons. But for the holding up of permits in London last month our arrivals would have been larger and also our deliveries, but it demonstrates that there is no heavy consumption of tin at present as there seems to be in other metals that enter into war munitions. The advance in price last month was not caused by demand from American buyers, but by the few offers to sell tin from abroad and the high price asked.

THE WEEK'S PRICES.

	Copper.	Electrolytic.	Lead.	Spelter.	Tin.
	Lake.		A. S. & R. Co.	Ind.	
Monday, Nov. 27.....	33.50-34.00	33.75-34.25	7.00	7.25-7.25	13.05-13.30
Tuesday, Nov. 28.....	33.50-34.00	34.25-34.75	7.00	7.25-7.25	13.17½-13.30
Wednesday, Nov. 29.....	33.50-34.00	34.50-34.75	7.00	7.25-7.50	13.17½-13.30
Thursday, Nov. 30.....	33.50-34.00	34.50-34.75	7.00	7.25-7.50	13.17½-13.30
Friday, Dec. 1.....	33.50-34.00	34.50-35.00	7.00	7.25-7.50	13.17½-13.30

MINING

LARGE COAL DEAL IN EASTERN KENTUCKY.

Activity Reported in Mineral Land Transactions and in Coal-Mining Operations.

Hazard, Ky., November 27.—[Special.]—The most important coal deal that has been made in the Hazard field during the present year was closed here late Saturday, when the Kentucky River Coal Corporation, acting through its allied company, the Stag Coal Corporation of Virginia, took over all the holdings of R. D. Baker of Winchester, Ky., and R. C. Reams (trustee), J. L. Kamerer and M. C. Cramer of New York City, and Mrs. Campbell of this county. The deal covers a number of valuable tracts. The exact acreage could not be ascertained, as the surveying is not completed yet, but it is known that the price is little under \$100,000. One of the tracts involved in the James Stacy boundary, on Carr's Fork of the North Fork River, and includes 500 acres, all of which is underlaid with the three workable coal seams found in this field and all covered with very valuable virgin forest. This tract brought the largest price. Other tracts are on Lott's Creek and Troublesome, and on George's Branch of Carr's Fork, and most of the land is well timbered.

Mr. Baker has been located here for several years as the agent for the other grantors in this deal, and put into the deal some considerable acreage of his own. He and Attorney H. C. Faulkner of this place represented the grantors, and Mr. W. S. Dudley of Lexington, president of the Kentucky River Coal Corporation, and his attorneys, Morgan and Nuckols, represented the purchasers. The deal has been under way for several weeks, the Stag Company having had a 60-day option on this land, but was finally wound up Saturday night, and Mr. Baker left yesterday for New York City with deeds to be executed by his associates there.

Mineral on Carr's Fork, in this county and Knott, has of a sudden taken a jump, and prices ranging from \$50 up are being paid almost daily. It is expected that a railroad will either run up Carr's Fork soon or that

the upper territory on this creek will be worked from the Lott's Creek side. It is almost a certainty that the next extensive spur line to be built in this county will go up Lott's Creek from Walker Branch, and will run close to the head of one prong of Carr's Fork.

The car situation in the Hazard field is much improved now, although coal men fear that the lifting of the embargo on cars by the Louisville & Nashville will bring back a scarcity of cars. Coal men are much encouraged over the last three weeks' business, as prices have been good and they have been able to ship as fast as they could turn the coal out. The field here is turning out on an average 125 cars a day, but the field is just beginning to be developed, having only 16 mines now.

Monongalia Coal Lands Corporation.

The Monongalia Coal Lands Corporation, Charleston, W. Va., recently mentioned as incorporated with a capitalization of \$4,500,000, is being formed as a part of the plan to segregate railway and coal companies. It acquires the coal properties (22,549 acres) of the Western Maryland Railway, which leases to the Davis (W. Va.) Coal & Coke Co. all lands, mines, plants, etc., owned by the West Virginia Central & Pittsburgh Railway, a part of the Western Maryland system, the Davis corporation having been operating these properties. The mines and mining facilities are estimated at \$5,000,000 and the lands are estimated at \$5,637,250.

The incorporators of the Monongalia company are: Austin Gallagher, industrial commissioner, Maxwell C. Byers, assistant to president, and Clarence H. Porter, chief clerk to president of the Western Maryland Railway, Baltimore, Md., Charles C. Knoblock and Carl F. Diller of the Davis Coal & Coke Co.

Georges Creek-Parker Coal Co.

The Cumberland Company's 7000-acre coal property near Mt. Savage, Md., has been leased and will be thoroughly developed by the Georges Creek-Parker Coal Co., which expects to invest \$100,000 annually during the next several years for developments. New machinery will be installed and the miners' houses will

be piped for natural gas, wired for electricity and equipped with modern plumbing. Three mines are to be operated, with a daily capacity of 3000 tons of coal. This Georges Creek-Parker Coal Co. has been incorporated by Raymond A. Walter, chief engineer of the Maryland division of the Consolidation Coal Co.; Foreman H. Schreiber, superintendent of the West Virginia & Maryland Gas Co., and Isaac L. Ritter, all of Frostburg, Md.

Record-Breaking Output in Joplin District.

In their monthly review of the Joplin, Mo., zinc and lead district for November, the Lyon Investment Co. of Joplin says:

"All previous records of this district, both in point of tonnage and values for zinc and lead ore, will again be broken by the 1916 output, which now looks as though the gross increase over 1915 will be as large or larger than last year's great gain over all previous high records.

"For the 11 months of the current year the production of zinc ore (including calamine) amounts to 670,793,852 pounds, which sold for \$26,522,880. During the corresponding period of 1915 the production was 555,223,525 pounds, which sold for \$20,604,186.

"The output of lead ore during the 11 months just ended has been 93,007,592 pounds, which sold for \$3,858,974, as compared with a production of 81,597,115 pounds, that sold for \$2,145,982, during the corresponding period of last year.

"The foregoing figures show the value of both ores for the first 11 months of 1916 to be \$30,381,854, as against a value of \$22,840,168 for the corresponding period of 1915 and a total value of \$26,050,350 for the entire year.

"November closed with the price for top grades of zinc strong around \$105 per ton, which was an advance of about \$30 per ton during the month and \$40 higher than the price in October.

"The market for lead ore is strong and steady at around \$90 per ton, as compared with a price of \$70 at the same time last year."

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Slane Hosiery Mills.

The Slane Hosiery Mills, High Point, N. C., has been organized by O. W. Slane of Statesville, N. C., and W. H. Slane of High Point, who has been chosen manager. This company has contracted for a two-story 130x60-foot building and for \$30,000 worth of mill machinery for a daily capacity of 500 dozen pairs of ladies' hose dyed and finished. A 35-horse-power electric drive will be installed and the other machinery will include 60 knitters, all employing 75 operatives.

Knitting Mill Capitalized at \$100,000.

The Ellerbe (N. C.) Knitting Mills Co. has been incorporated with \$100,000 capital by J. R. Bennett, B. B. Farlow, W. L. Howell, J. R. Wall and D. A. Parson.

Textile Notes.

It is rumored that the Erlanger Cotton Mills of Lexington, N. C., will build a large addition, and the company states that it has made no plans for additions.

The Walker County Hosiery Mills, Lafayette, Ga., will add 60 knitting machines, and the contract has been awarded for this new equipment.

The Dresden Cotton Mills, Lumberton, N. C., will build an addition to be equipped with spindles and accompanying machinery.

Wm. McDonald, care Y. M. C. A., Mobile, Ala., may install cotton-twine plant, and wants addresses of manufacturers of the necessary machinery.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

\$1,600,000 TO BE SPENT AT DALLAS.

Double Concrete Viaduct, Carrying Four Tracks, and Other Improvements.

The Texas & Pacific Railway proposes to spend about \$1,000,000 at Dallas, Tex., to elevate its tracks on Pacific avenue. Two viaducts of reinforced concrete, each carrying two tracks, will be built, one on each side of the street and extending from the crossing of the Houston & Texas Central Railroad in East Dallas to Broadway street, near the Trinity River. Two of the tracks will be used for main line traffic and the other two will be used for loading and unloading freight at warehouses and industrial plants. The uniform grade will correspond to the second story level of buildings. When the work is finished there will not be any tracks remaining on the surface of the avenue.

A conference between the railway officials and the municipal authorities is to be held preliminary to starting work upon the improvement, which will eliminate over a dozen dangerous grade crossings. It will also give the city another thoroughfare from east to west through its most active commercial section, making the fourth main highway through this business district. The central portion of the avenue will not be obstructed by the elevated railroad in any way, as Pacific avenue is wide and the placing of the viaducts on either side will leave the center of the highway free for the use of vehicles. It is stated that the plans for the improvement were made by C. E. Smith of St. Louis.

Another railroad improvement at Dallas is planned by the Missouri, Kansas & Texas Railway, which will double-track its line from the foot of Pacific avenue to Walters street, at the northern city limits, a distance of two miles. Five grade crossings will be eliminated and elsewhere the tracks will be elevated for a distance of several hundred feet. This elevation will be to a height of 10 or 12 feet. Two concrete bridges will have to be erected in the course of the work. Altogether about \$600,000 will be expended by this road.

BALTIMORE TO SOUTH AMERICAN PORTS.

Negotiations for Establishing a \$15,000,000 Steamship Line via Panama Canal.

The Baltimore & Ohio Railroad Co. is engaged in negotiations looking to the establishment of a steamship line to operate between Baltimore and both the east and west coasts of South America. Capitalists of that continent are interested in the plan, which is expected to represent an investment of about \$15,000,000. It is contemplated to run four steamships at the beginning of the enterprise, one leaving each month both ways and to and from both coasts. The west coast ships will use the Panama Canal. It has been expected for some time that there would be a reopening of shipping activity between Baltimore and South American ports, because of the former liveliness of such traffic in the days of the coffee clipper ships which sailed between Baltimore and Rio de Janeiro. Now the greatly extended deep-water frontage on Baltimore harbor has attracted the attention of shipping interests and important developments are anticipated.

NEW ORLEANS & LOWER COAST RAILROAD.

An Old Line to Be Extended and Its Opportunities Otherwise Developed.

The New Orleans & Lower Coast Railroad Co. has just been organized at New Orleans to operate the New Orleans, Fort Jackson & Grand Isle Railroad, until recently called the New Orleans Southern & Grand Isle Railway, and is proposed to build an extension

from Buras to Venice, La., about 16 miles, and to otherwise improve the property. The road has recently been in the hands of T. G. Bush as receiver. On December 1 the receivership was terminated, and he turned the property over to the new company, of which H. D. Emerson, who was general manager for the receiver, now is president and general manager and T. G. Bush and Lee Benoist are vice-presidents, the other officials being George Janvier, secretary; Bernard McCloskey, treasurer, and H. Genereux Dufour, general counsel. The directors are Bernard McCloskey, Hugh McCloskey, Frank B. Hayne, C. E. Allgeyer, C. P. Ellis, Walter Weiss, Hugh L. Vincent, H. D. Emerson, H. Genereux Dufour, Lee Benoist and T. G. Bush of New Orleans.

An executive committee has been appointed to consider contemplated improvements and additions. The line traverses a rich truck farming and orange-growing region, and also a section extensively devoted to fishing and oystering industries. It runs from Algiers, opposite New Orleans, southeast through Plaquemines parish for 60 miles on the west side of the Mississippi River, following the course of that stream closely. Venice, which is proposed to reach by means of an extension, is at the head of Grand Pass, one of the several mouths of the river.

B. & O. EARNINGS BREAKING RECORDS.

At the Present Rate of Increase the Current Year Will Show Much Greater Than Last.

Gross earnings of the Baltimore & Ohio Railroad during October broke another monthly record, according to the statement just issued. The figures are thus: Operating revenues \$10,657,534, increase as compared with the same month of last year \$653,103; total operating expenses \$7,596,612, increase \$752,723; net operating revenue \$3,060,922, decrease \$99,620.

The main reason for the decrease in net as compared with October, 1915, is the great increase in the cost of conducting transportation, the additions in this item alone being \$658,886 for the month over last year, yet there were also substantial increases in the general expenses and traffic expenses. There was a decrease in the cost of maintaining equipment, but the cost of maintenance of way and structures increased within a few thousands of the decrease, so that was about a standoff.

The statement for the first four months of the company's year, which begins July 1, shows gross earnings averaging more than \$10,000,000 per month. It is as follows: Operating revenues \$41,877,521, increase as compared with the corresponding period of last year \$4,235,661; total operating expenses \$28,148,601, increase \$4,332,377; net operating revenue \$12,728,920, decrease \$96,716.

The item of transportation expenses in the cost of operating is impressive in its comparison. It was a total of \$13,935,476 for the four months, or \$2,569,739 more than in the same time last year, and expenses are still disposed to increase.

NEW RAILROAD AND AN OIL TOWN.

John Ringling and Associates Have Extensive Developments Planned.

Construction of a railroad 90 or 100 miles long from Ringling, Okla., to Oklahoma City and the building of at least one new town in the oil fields is proposed by the principal men in the Oklahoma, New Mexico & Pacific Railway, which runs west from Ardmore, Okla., to Ringling, 30 miles, and which may some day be extended on to Lawton, according to plans previously reported. At Ringling the road is 90 miles south of Oklahoma City, and to reach the latter point a new company, the Ringling & Oil Fields Railway Co., capital \$300,000 has just been chartered. A report from Ardmore says that 20 cars of rails for the new line have already been received, and it is expected that construction will start before December 15.

The new town will be in Carter county, only a few miles northeast of Ringling and between the present towns of Wirt and Healdton, which are only about five miles apart, and it will take the place of Wirt, it is said, because Wirt is in the oil-producing area and drilling

new wells continues right in that town, with the result that it expected to be moved to a new site.

The incorporators of the new railroad, which will be operated by steam locomotives, are Jake L. Hamon of Lawton, Okla., vice-president of the Oklahoma, New Mexico & Pacific Railway; John Ringling, its president, 221 Institute Place, Chicago, Ill.; Chas. C. Wilson, vice-president, same address; H. A. Coomer, auditor and traffic manager, and P. C. Dings, treasurer, both of Ardmore, and C. L. Anderson, a banker of the same city.

New Equipment, Etc.

Missouri, Kansas & Texas Railway has ordered 10 Pacific type locomotives from the American Locomotive Co., also 10 baggage cars from the American Car & Foundry Co.

Virginian Railway is reported in the market for 50 gondola cars.

United Railways & Electric Co. of Baltimore has increased its order for double-truck pay-within type cars to 100 cars, instead of 75 cars. They are being built by the J. G. Brill Company, Philadelphia.

Chesapeake & Ohio Railway is reported getting prices on 51 flat bottom gondola cars and 26 hopper cars, all of 57½ tons capacity.

Florida East Coast Railway contemplates purchasing 5 passenger cars and 3 combination passenger and baggage cars.

Norfolk & Western Railway is expected to be in the market soon for 2000 hopper cars and 1000 ventilated box cars.

Bamberg, Ehrhardt & Walterboro Railroad has purchased a locomotive, a baggage car and a passenger car for its 14-mile line from Bamberg to Ehrhardt, S. C., which has heretofore been operated by the Atlantic Coast Line.

Chicago, Burlington & Quincy Railroad is reported in the market for 5 postal cars.

J. G. Sutton, city secretary, Beaumont, Tex., is inviting bids until December 19 at 10 A. M. to furnish the city with 75-pound relaying rails sufficient to lay 4000 feet of track, also spikes, angle bars, tieplates, track bolts, etc.

Wabash Railroad has ordered 6 postal cars from the American Car & Foundry Co.

Macon Union Station Now in Use.

The new union passenger station at Macon, Ga., was opened for service December 1, and is now being regularly used by the trains of the Southern Railway, Central of Georgia Railway, Georgia Southern & Florida Railway, Georgia Railroad, Macon & Birmingham Railway and Macon, Dublin & Savannah Railroad. It is a handsome edifice of granite, limestone, brick and terra-cotta, fronting on Cherry street, in a location convenient to hotels, places of amusement and the business section. It is operated by the Macon Terminal Co., M. A. Ramsey, president. A description of it appeared in the MANUFACTURERS RECORD October 5, 1916.

Block Signals for 102 Miles of Road.

The Richmond, Fredericksburg & Potomac Railroad has awarded a contract to install automatic block signals on its double-track line from North Acca, near Richmond, Va., northward for a distance of 102 miles, the work ending at AF signal tower. The work will be done by the General Railway Signal Co., and the signals are to be operated by electricity by the alternate current method. At present hand-operated signals are used.

Has Invented Railroad Safety Devices.

Thos. J. Arculeer, 8142 Panola street, New Orleans, has invented several devices intended to prevent railroad accidents, such as head-on, rear or side collisions, or derailments at bridges, etc. It is proposed also to avoid highway crossing accidents, and flagmen will not be needed. At crossings of other railroads signals will be given to indicate whether the way is clear or not. The several devices of Mr. Arculeer are all automatic

in their operation, and include a railway signal, a bridge signal and a railway gate. The railway signal is operated by a device on the locomotive which signals four miles ahead that the train is coming and simultaneously protects the rear of the train by setting signals two miles back. The signals are changed one by one as the train advances to protect it and to permit the passage of other trains.

A demonstration of the devices will be made at New Orleans, it is stated.

Short Route Now to Lake Okeechobee.

The Florida East Coast Railway has completed and put in service its cutoff of 17 1/4 miles between New Smyrna and Maytown, Fla., which provides a direct route between Jacksonville and St. Augustine and the Okeechobee country. The Kissimmee Valley division, beginning at Maytown, was extended down to Lake Okeechobee two years ago, but all connections with the main line of the system had to be made via Titusville, which is some distance south of Maytown on the branch which runs from Titusville northwest over to Enterprise Junction via Maytown. This made a roundabout way for all traffic to and from the north with relation to the Okeechobee region, and it was decided to construct the cutoff.

Norfolk Belt Line to Be Extended.

A report from Norfolk, Va., indicates that the long-talked-of extension of the Norfolk & Portsmouth Belt Line Railroad to the water front on the Norfolk side of the Elizabeth River will probably soon be constructed. The contract between the city and the railroad company, which was signed by the presidents of the two branches of the City Council about two months ago, has now been signed by President W. A. Patton of the railroad and handed to Barton Myers, president of the dock board, which will immediately take steps to purchase property on the river for docks. The extension is conditioned upon the building of adequate dock and terminal facilities at the proposed terminus on the water front at Norfolk. The construction of the extension is expected to be followed by considerable commercial and industrial development.

Atlantic Coast Line Earnings Growing.

The statement of the Atlantic Coast Line Railroad for October shows total operating revenues \$3,088,724, increase as compared with the same month of last year \$516,390 operating expenses and taxes \$2,206,157, increase \$233,870; operating income \$882,567, increase \$282,519.

The statement covering the four months of the current fiscal year from July 1 shows total operating revenues \$11,045,228, increase as compared with the corresponding period of last year \$1,918,540; operating expenses and taxes \$8,561,268, increase \$802,822; operating income \$2,483,960, increase \$1,115,717.

Efficient Work for Knoxville's Advancement.

The report of the directors of the Board of Commerce of Knoxville, Tenn., for the six months' period from May 1 to November 1 has been arranged in a strikingly unique pamphlet for distribution. On the front page of the pamphlet is a diagram arranged in the form of a heavy brick foundation, with red bricks properly labeled to indicate those things which the organization has accomplished, with white bricks above showing the things for which the association is now working and plans to accomplish.

The scope of the association's work is thus placed before the members in a very impressive manner and enables them to quickly grasp the wide range of activities that come under an efficient commercial organization. The report shows that the Knoxville Board of Commerce is unusually active in working for those things that make for a city's broadest expansion, and is also devoting its energies to the improvement of conditions affecting every phase of its municipal business and social life.

Good Roads and Streets

SOUTHERN HIGHWAY ACTIVITIES.

Details in regard to road and street undertakings and bond issues, briefly mentioned below, are given under the proper headings in our "Construction Department" and "New Securities," published elsewhere in this issue.

Bonds Voted.

Cameron, Tex.—Milam county voted \$150,000 bonds for road construction.

Earlington, Ky.—City voted \$15,000 bonds for street improvements.

Franklin, Va.—City voted \$40,000 bonds for improving streets, etc.

Lockhart, Tex.—Caldwell county voted \$5000 bonds for clayey roads.

Bonds to Be Voted.

Arapaho, Okla.—Custer county votes January 15 on \$800,000 bonds for road construction, to include 109 miles of highway.

Center, Tex.—Shelby county votes December 11 on \$120,000 bonds for road improvements.

Crowley, La.—Acadia parish votes December 30 on \$400,000 bonds to construct roads.

Eastland, Tex.—Eastland county votes December 30 on \$200,000 bonds for road construction.

Salem, Va.—Roanoke county votes January 16 on \$125,000 bonds to construct 16-mile highway.

Sikeston, Mo.—City votes December 12 on \$10,000 bonds to construct roads.

Tarpon Springs, Fla.—City will vote on \$7500 bonds to improve streets and parkways.

Contracts Awarded.

Ashland, Ky.—City awarded \$40,000 contract for grading and paving.

Florence, S. C.—City awarded contract for 21,000 square yards of macadam paving.

Lake Charles, La.—Calcasieu parish awarded \$16,000 contract for road graveling.

Contracts to Be Awarded.

Perry, Fla.—Taylor county invites bids until December 6 for roadway excavation, embankment, pavement, etc., for 86 miles of highway.

Welch, W. Va.—McDowell county invites bids until December 15 for grading, surfacing, bridges, etc., for 36 miles of highway.

LARGE ROAD MILEAGE BUILT UNDER FEDERAL SUPERVISION.

Experimental, Post and County Roads Constructed—Homes and Other Farm Buildings Designed.

Nearly five million square yards of roadway, the equivalent of 561.9 miles of road 15 feet wide, were constructed under the supervision of Federal road specialists during the last fiscal year, according to the annual report of the Office of Public Roads and Rural Engineering of the United States Department of Agriculture, just issued. This is more than double the mileage so constructed in previous years. The roads constructed under supervision of the office include experimental roads, post roads, county roads and roads in national parks and forests. The expenditures of the office for this purpose were chiefly for engineering services and supervision, the communities, except in the case of forest and park roads, meeting the bulk of the costs for material and construction.

A special appropriation was made for the construction of the post roads in the postoffice appropriation bill of 1912. Eight of the 11 post-road projects remaining at the beginning of the last fiscal year were completed by the end of the year, bringing the mileage of the completed roads under this special project to 397.6. Three of the original 17 projects, aggregating 59.17 miles in length, remained uncompleted at the end of the year.

The eight projects completed are in seven States and traverse 15 counties.

The office made studies and recommendations for improving the complete road systems of 32 counties in a number of States, assigned engineers to inspect specific roads and advise as to their treatment in 113 communities, and specially assigned seven engineers to assist State departments of roads and other State agencies dealing with roads and road materials.

The demonstration maintenance work undertaken in 1914 on a through route from Washington to Atlanta was continued during the year, the mileage under supervision increasing from 724 to 876. The cumulative effect of continuous maintenance, says the report, has been demonstrated by the fact that from March 15 to the end of the fiscal year, June 30, 1916, the road was not closed to traffic at any point.

In its rural engineering work the office planned farm water-supply systems and sanitary systems, and prepared plans for a Southern farmhouse, three farmhouses suited to Northern conditions, barns, corn cribs, stables, machinery sheds, etc. The office also furnished information in regard to electric-lighting and power plants for farm refrigerating systems, heating plants, windmill installations, etc.

Great Expansion of Peanut Oil Industry in Texas.

Austin, Tex., December 2.—[Special.]—A general movement has been encouraged by the commercial boards and some of the industrial interests of the State to bring about a great expansion in the growing of peanuts in Texas. It was not until this season that the full possibilities of the peanut industry was impressed upon many of the farmers of Texas. Now that the cottonseed-oil mills have interested themselves in the crushing of the peanuts and converting them into oil and cake, the product is coming into great demand and prices have reached an unprecedented figure.

The new era in peanut growing may be said to have had its beginning about three years ago, when Elmo Coleman, manager of an oil mill at Comanche, Tex., decided to make experiments with peanuts as a possible producer of oil and cake. The cotton-oil mill owners throughout the State became interested in the experiment, and a few of the oil mills installed the necessary equipment for peanut crushing. As the prices of oil and cake continued to mount upward the interest of every cottonseed oil man was aroused and in many localities systematic campaigns were conducted among the farmers with a view to having them place under cultivation enough acreage in peanuts to supply the local cottonseed-oil mill. The industry this season increased to such an extent that it may now be considered one of the established and large sources of revenue, both to the farmer and the cottonseed-oil mill people and various allied interests. The area devoted to the growing of peanuts in Texas this year was approximately 300,000 acres. About 50 cottonseed-oil mills have been handling the crop, and the demand for the goobers is so great that some of the mills have bought many cars of them as far distant as 400 miles from the plants where they were to be utilized. It is predicted that nearly every oil mill in Texas will be equipped with peanut-crushing machinery with which to handle next season's crop.

The present price which is being paid for the goobers ranges from \$1.10 to \$1.25 per bushel, and as the yield per acre ranges from 40 to 60 bushels, the profitability of the crop may be seen at a glance. Besides the peanuts themselves, the hay which is produced now has a selling value of \$12 to \$14 per ton, and approximately three-fourths of a ton is obtained on each acre.

Cotton, Flour, Shoes, Textiles, Etc.

ABRAHAM H. BENCHIMOL, Tangier, Morocco.

Here is a list of articles of interest to me: All kinds of cotton and woolen textile fabrics; cotton and woolen hosiery; flannel, in wool and in cotton; foot coverings; shoes and slippers of leather; wool and cotton; wheat flour; cottonseed oil. In order to facilitate business it would be well to advise factories to quote prices, along with samples, in French or English money and if possible c. i. f. Tangier. If your people are a little accommodating we can certainly arrive at an understanding whereby a large amount of business can be done.

ROCK HILL AUTOMOBILE PLANT ENLARGES.

Capital Increased to \$1,500,000 and Output to Be 3000 Machines a Year.

For about a year the Rock Hill (S. C.) Buggy Co. has been manufacturing automobiles, and its facilities have been increased until now the annual capacity is 2000 cars. Owing to the increasing demand, the owners of the company have incorporated the Anderson Motor Co., with a capitalization of \$1,500,000, to continue and increase this automobile industry. The incorporators are John G. Anderson, president of the Rock Hill Buggy Co.; J. B. Johnson, T. L. Johnston, J. M. Cherry, Alexander Long and J. W. O'Neal, all of Rock Hill, and J. A. Carr of Birmingham, Ala.

Outlining the new corporation's plans, Mr. Anderson wires the MANUFACTURERS RECORD:

"The Anderson Motor Co. will use the plant of the Rock Hill Buggy Co. This plant will be enlarged during the coming year so that the capacity will be something like 3000 cars per annum. It now has a capacity of 2000 cars per annum. No machinery will be bought for some time, as the present factory is already fully equipped."

Unauthoritative reports state that the chassis, engines, tires, rims, etc., are purchased from other manufacturers, and that the woodwork, sheet-iron coverings, tops, etc., are all cut by the Rock Hill plant. R. W. Lytle of the Bimet Auto Co., Sidney, O., formerly with the Canadian plant of the Buick automobile manufacturers, is understood to have been secured as manager of the Rock Hill plant, and it is believed that, with the organization of the new corporation, arrangements will be made for manufacturing some of the parts now purchased.

PLANNING TO SETTLE LANDS IN SOUTH-EAST TEXAS.

Broad Program to Interest Prospective Settlers and Give Practical Co-operation to Those Who Locate.

Houston, Tex., November 27—[Special.]—A carefully thought-out plan, backed by the Chamber of Commerce of Houston, Tex., to settle the thousands of acres of idle lands in Southeast Texas has just been placed in operation by the business interests of Houston. It is proposed to conduct a vigorous campaign to induce desirable settlers to come here and engage in farming.

The facts that the claims advanced will be substantiated by the most influential men in Houston, and that every consideration will be shown the settler after he has taken over the land, are expected to prove strong inducements. It is the intention of the proponents of the agricultural plan to treat with those only who really intend to engage in farming. No lands will be offered for purely speculative purposes.

Every essential angle of farming has been placed in the hands of sub-committees of the agricultural department of the chamber of commerce. Each committee has a chairman and a vice-chairman, and the executive committee has complete supervision over everything.

The committee work is divided as follows:

Homeseekers' Division—To have charge of all efforts to bring farmers to this vicinity; also the listing and inspecting of lands to be offered them; in fact, the entire supervision of the location of homeseekers on these lands.

Farm Demonstration Division—Will lend its efforts toward the proper planting and cultivating of farm crops, especially looking after new farmers coming to the Houston district.

Horticultural Division—The development of the horticultural interests of this section, including truck raising and fruit growing.

Livestock Division—The development of dairying, hog raising and all things pertaining to the farm.

Home Demonstration Division—To undertake the work of teaching the girls and women of the farm proper housekeeping, hygiene, preserving and canning of foods, poultry raising, cooking, etc.

Marketing Division—To study and standardize the conditions surrounding the marketing of all kinds of farm products, both locally and in distant places. Its work shall include the organization of the farmers into

co-operative marketing clubs or organizations. It shall also teach the farmers how to gather, inspect, sort, pack and ship to the markets.

Farm Equipment Division—The education of the farmers as to modern farm buildings, machinery and equipment generally; the kind of home to build, how to equip it with water and other conveniences, sanitation for the farm, proper construction of silos, produce storage-houses, barns, etc.

Rural Credits—This division shall have for its aim the betterment of credit and financial facilities for handling farm products from planting to marketing; for buying new equipment, livestock, etc.; also the organization of loan associations under the Federal Farm Loan Act.

Rural Welfare Division—The development of the rural social condition, bringing the farmers together into social centers for purposes of entertainment, education and a general betterment of rural and farm life.

Nearly \$22,000,000 Increase in Taxable Values in Texas for 1916.

Austin, Tex., December 2—[Special.]—The total taxable values of Texas for the year 1916, as shown by the reports made to the State Comptroller's Department by the different counties, is \$2,777,143,189, which is an increase of \$21,973,396 over that of the preceding year.

While the figures in detail are not complete in the matter of the actual number of livestock, as well as the amount of other property, due to the fact that it is often the practice of the owners to make lower renditions than they actually possess, still the showing contained in these reports may be regarded as strongly indicative of the actual condition and apportionment of the State's wealth.

According to the statistics received by the State Comptroller's Department, the number of cattle in Texas in 1916 was 6,149,232, which is an increase of 1,042,301 over the preceding year. The total value of this livestock is \$97,670,277. Notwithstanding the activity through the year of the buyers of horses and mules for foreign war purposes, the figures show that there are 39,591 more horses and mules in Texas at this time than there were a year ago, their total number being 1,822,120 and their value \$79,219,902. The number of sheep in the State is 1,683,269, with a valuation of \$3,882,440. The increase since last year was 83,590, and an increase of 72,718 was made in the number of goats since last year, the present number being 1,293,371, which have a valuation of \$2,303,593. The number of hogs increased 60,787 head, there being this year 909,385 head of these animals in the State and they have a valuation of \$3,280,837.

Will Manufacture Apple Products.

General apple products will be manufactured by the Virginia Fruit Product Co., Roanoke, Va., which succeeds the Virginia Brewing Co. and the Consolidated Ice Co. This is a new corporation chartered with \$125,000 capital to utilize the brewery and ice plant buildings for the new enterprise, which will have a season capacity of 500,000 bushels of cull apples. The products will include vinegar, cider, apple butter, evaporated apples, canned apples and fuel alcohol. L. A. Scholz is president and general manager.

Monte Sano Hotel and Country Club.

In connection with the Monte Sano Hotel at Huntsville, Ala., which will shortly open for business the year 'round, the owners will open the Monte Sano Country Club, admission to which will be by invitation only. It is the purpose of the hotel company to make the country club feature almost national in its scope, as its membership will be resident and non-resident, composed of members from Boston to New Orleans and from St. Louis to Miami. Special attention will be given to tourist members. The club quarters will be located in the \$150,000 Monte Sano Hotel, situated on the brow of Monte Sano, 1800 feet above sea level and overlooking Huntsville. In addition to the main building a number of outbuildings have been provided suitable for

housing servants, motor cars, horses, dogs, etc. Arrangements have also been made for the construction of an 18-hole golf course, while facilities for tennis, fishing, shooting, bowling, billiards, dancing, etc., will be provided. A stable of high-class riding and driving horses is maintained and a pack of fox dogs. The club will be under the management of Mr. Harvey P. Hughes, and its temporary offices are at the Chamber of Commerce, Huntsville.

Additional Contract for Work on Inland Waterway.

Col. J. P. Jervey, United States District Engineer, Norfolk, has awarded contract to the Atlantic, Gulf & Pacific Company of New York for \$720,000 worth of construction on the Norfolk to Beaufort inland waterway at 14 3/4 cents per cubic yard for dredging. There will be \$280,000 worth of the work undertaken by the Government, and this will cover the \$1,000,000 appropriation for the year ending next June 30. Completion of this \$1,000,000 worth of work will about half finish the section from Norfolk to Albemarle Sound.

The Atlantic, Gulf & Pacific Company writes to the MANUFACTURERS RECORD:

"Work which will be done will be in what is known as Virginia Cut, North River, N. C.; North River Bar, N. C., and North Landing River, N. C. The channel varies from 90- at bottom width in the land cuts to 250-foot bottom width in the open river and bay cuts. Depth to be made, 12 feet below mean low water. All of the work is for hydraulic pipe line dredges, except the bar at the mouth of North River, which will be done either with a clamshell or a hopper dredge. We have not yet definitely decided just which plants we will put on this work."

Alabama Technical Association Organized.

Representative engineers engaged in different lines of engineering in Alabama recently organized the Alabama Technical Association, which is to have for its purpose the development of the natural resources of the State and the advancement of technical work.

Twelve directors were chosen, two each being selected from among the members of the six leading national technical associations. These were as follows:

American Society of Civil Engineers, W. S. Keller, Montgomery; Major J. S. Sewell, Gantt's Quarry.

American Society Mechanical Engineers, J. H. Klinek and O. G. Thurlow, Birmingham.

American Institute Electrical Engineers, H. M. Gassman, Martin J. Lide, Birmingham.

American Institute of Mining Engineers, H. S. Geisner, Erskine Ramsay, Birmingham.

American Chemical Society, Dr. H. B. Battle, Montgomery; Dr. J. R. Harris, Birmingham.

American Institute of Architects, Hugh Martin, H. B. Wheelock, Birmingham.

Metal Culvert Makers to Meet.

The United States Metal Culvert Association will hold its annual meeting in Chicago December 8 and 9 at the La Salle Hotel. This association is composed of 80 independent corrugated culvert manufacturers. The present officers are: C. L. Carter, president of Fort Dodge Culvert Co., Fort Dodge, Iowa; Samuel M. Dague, chairman, Chicago, Ill.; A. W. Dowler, secretary, Chicago and Wheeling, W. Va., and executive committee, E. E. Leggett, Minneapolis Steel & Machine Co., Minneapolis, Minn.; E. J. Ellertson, Russell Grader Co., Minneapolis, Minn.; W. H. D. Wheat, Newport Culvert Co., Newport, Ky.; J. W. Landenberger, American Road Machine Co., Kenneth Square, Pa.; Perry Van Horne, Canton Culvert Co., Canton, O.; A. W. Crostly, Wheeling Corrugating Co., Chicago and Richmond, Va., and J. H. Dean, Birmingham Metal Products Co., Birmingham, Ala.

R. Grady Rankin of Gastonia, N. C., will organize a \$150,000 company to build a 5000-spindle mill for manufacturing fine cotton yarns.

MECHANICAL

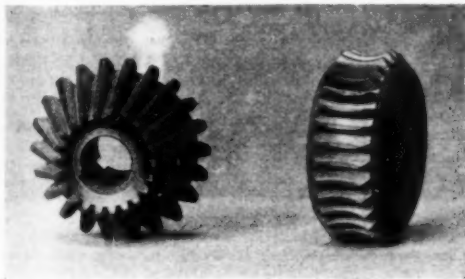
Illustrations and descriptions having news value pertaining to developments in machinery, mechanical devices and inventions will be considered for use in this department.

Bakelite Micarta-D Gears and Pinions.

Non-metallic material to be suitable for gears must possess a mechanical strength sufficiently high to withstand the stresses involved without increasing the width of the face of the gear to abnormal limits. It must be hard enough to wear well and must not shrink or swell from oil or moisture, nor deteriorate in storage. The teeth, too, should be able to withstand the service requirements without metallic reinforcement of their ends, so that the two mating gears can be made of equal width of face to obtain uniform wear over the entire wearing surfaces of both. A non-metallic gear is quiet in operation, and, in addition, a non-metallic gear is slightly elastic and will absorb shocks that otherwise would result in broken teeth or severe vibration.

A non-metallic gear material which is claimed to successfully meet all of these requirements has recently been placed on the market by the Westinghouse Electric & Manufacturing Co. of East Pittsburgh, Pa., under the name of Bakelite Micarta-D. This is a product of heavy duck bonded together with Bakelite by heating while under an enormous pressure. It is as strong as cast iron, is unaffected by atmospheric changes, is vermin proof, and can be stored indefinitely without shrinking or other deterioration. It can be used for gears that have to operate in oil, without any signs of swelling. In most cases neither bushings or shrouds are required, as the material is self-supporting. Where, however, the requirements are unusually severe, or where the diameter of the gear is several times the width of the face, and plates may be advisable, but even in such cases the teeth need not be shrouded, and the width of the gear is determined only by the power to be transmitted.

It is advisable that the width of the face of the gears be made the same or less than the mating gears in order



TWO SPECIAL FORMS OF BAKELITE-MICARTA-D GEARS.

to insure uniform pressure over the entire tooth. Because of this fact Bakelite Micarta-D gears can be utilized for many special applications, as, for instance, a two-inch face pinion meshing with a seven-inch face flywheel.

Bakelite Micarta-D material readily takes a good polish, machining best at high speed and with plenty of rake to the tool. It can be machined in any direction and drills and taps readily. The same tools are used as for steel when cutting teeth, but an increase in cutting speed of 25 per cent. and an increase of feed of 50 per cent. may be used. The depth of material from the root of the tooth to the bore should never be less than the depth of the tooth. In other words, from bore to root of tooth should be equal or exceed the distance from root of tooth to face of gear. And, if rivets are used, the diameter of the hole must be subtracted from the distance from bore to root of tooth. Thus a smaller pinion or larger bore gear can be manufactured than with any other non-metallic gear material. At present this material is not made in thicknesses over two inches. Hence, when gears having a face of more than two inches are required two or more plates of Bakelite Micarta-D must be riveted together, using metal and plates or standard washers under the rivet heads.

Bakelite Micarta-D material has a tensile strength parallel to laminations of 10,000 pounds per square inch, a compression strength of 30,000 pounds per square inch perpendicular to laminations, and of 17,000 pounds per square inch parallel to laminations; a transverse

strength of 17,000; a coefficient of expansion per inch per degree centigrade of 0.00002 inch in the direction parallel to laminations and of 0.000085 inch in the direction perpendicular to laminations. It has a specific gravity of 1.4, weighs 0.95 pound per cubic inch, and has a water absorption of 0.25 to 2 per cent. by weight, depending upon the relative amount of edge surface exposed. Shrinkage and oil absorption is practically zero.

The long life of Bakelite Micarta-D gears has been proven under severe service conditions, and in a large variety of applications, such as timing gears for automobiles, main driving gears for punch presses, boring mills, engine lathes, pressure pumps crane motors, textile machinery and general machine shop service.

Automobile timing gears can usually be made from solid plate. In case it is necessary to have a web gear, in order to allow for clearance, it is preferable to use a metal hub and web, only the teeth and rim being made of non-metallic material. Spur, bevel and helical gears when made from Bakelite Micarta-D should be used in mesh with metal gears, and in order to operate satisfactorily both gears must be cut true, lined up accurately and properly spaced between centers. The allowance for back lash should be about double the usual allowance for steel. Lubrication of Bakelite Micarta-D gears is essential. Any good lubricating oil or grease will answer, but there should be plenty of it. Rough or worn teeth of mating gear or bad alignment will cause vibration and rapid wear.

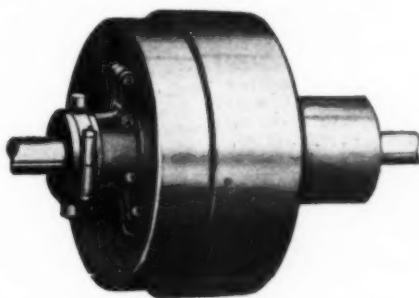
High-Speed Friction Clutch.

With the growing use of anti-friction lineshaft hangers and of machine tools designed for high-speed steel there has come a general tendency to use higher speeds for factory shafting. Aside from metal-working machinery, certain others like grinding and polishing machinery, woodworking machines, fans and electric motor drives have always called for high speeds, and the necessity of having friction clutches adapted to high speed conditions has become apparent.

The clutch here shown was especially designed for high speeds. It is of the metal-to-metal type, having bronze discs alternating with cast iron. The discs are lubricated, but do not run in an oil bath. They are fully enclosed, and all important parts are machined all over so that the clutch is perfectly balanced. Engaging mechanism is such that there is no tendency to grab or drag when the clutch is released, and a very accurate adjustment is provided.

The clutch is made in loose pulley and cut-off coupling types. From the following description of the loose-pulley type, the cut-off coupling type will be understood:

The hub is keyed to the shaft and drives (or is driven by) cast-iron discs through a series of pins which slidably connect the hub and the follower. This follower is bored to pass over lugs cast on the pulley sleeve. Between the hub and follower a threaded adjusting ring



HIGH-SPEED FRICTION CUT-OFF COUPLING.

is used. The operating levers are attached to the hub, and act against the adjusting ring. The adjusting ring, when forced to the right, carries with it the follower, and the hub is forced to the left, thereby engaging the discs.

Bronze discs are slotted and slidable on the lugs of sleeve, thereby communicating power to the latter. Springs free the discs when the clutch is released.

A sleeve, carrying the loose pulley, runs on a divided bronze bushing, which is keyed to the shaft and grooved to distribute oil. The central space holds oil and feeds it by gravity to the running surface as long as any remains. The oil-retaining collar is attached to the sleeve, not to the shaft, and is therefore not affected by centrifugal force.

This lubricating arrangement is of the utmost impor-

tance at high speeds, as it holds the oil where it belongs and protects both the running surfaces and surrounding objects which might be damaged by flying oil.

In the cut-off coupling the extended sleeve is omitted and a small bushing is used to hold the two shaft ends in line.

The clutch is made in sizes from 5 inches to 25 inches diameter of bronze discs. Each size has from 1 to 6 discs, according to the capacity desired. The smallest size can be run up to 3000 revolutions per minute and the largest size up to 750 revolutions per minute. Powers transmitted are up to 630 horsepower.

In sizes from 5 to 13 inches the clutches can be fitted directly on an extended hub of the pulley, gear or other member.

These clutches are recommended by the manufacturer for use with alternating current motors when required to start under load, also for group drives to high-speed machinery and individual drives to woodworking and other heavy high-speed machines. They are made by the Moore & White Co., Philadelphia, Pa.

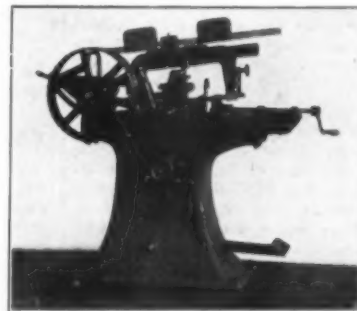
Develops New Hacksaw Machine.

A new hacksaw machine just being placed on the market by the L. S. Starrett Company combines a number of features which are intended to give better service and more economical results than are now obtainable. It is the first machine ever put on the market by this toolmaking concern, and was developed because of the company's connection in the metal-cutting industries, where its hacksaw blades are used. The same guarantee as to material and workmanship applies to the machine as to the line of mechanics' tools and hacksaws.

Four points in particular will commend themselves to practical shop men.

The first is the stroke adjustment, which makes possible a stroke of practically the full length of the blade, no matter what the size of stock. This insures uniform wear of blades and faster cutting.

The second feature—one that will appeal particularly to the operator—is the foot-treadle for raising the saw-frame. By it the operator's weight raises the saw instead of requiring him to exert his strength in lifting. This also gives greater speed.



STARRETT HACKSAW MACHINE.

The third feature is an oil dash-pot controlling the descent of the saw. This dash-pot allows the machine to be started when the frame is up and prevents it from dropping and breaking the saw. It further eases the blade onto the work, so that the teeth do not bite in so rapidly as to strip them or break the saw.

The fourth feature is the automatic locking device, which prevents the saw dragging on the return stroke and holds the saw-frame at any height when the machine is stopped for setting work.

The saw-frame is mounted on a rectangular slide with a bearing 11 1/4 inches long, accurately fitted with an adjustment for wear and provided with a quick-acting saw-tightener to hold the blades square. The stroke of the saw is adjustable for stock from one inch to six inches in diameter.

A pump and lubricant tank are located inside the base, and may be quickly removed for cleaning, although this is seldom necessary, as chips are retained in the pan of the bed and easily removed. The machine is intended to take 14-inch saws, but 12 or 13-inch saws may also be used. The height over all is 48 inches and the height to the top of the table is 28 inches. She machine occupies a floor space 14x32 inches.

Detailed description and bulletin may be had upon application to the L. S. Starrett Company, Athol, Mass.

Construction Department

IN ORDER TO FOLLOW UP

Properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be written on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the post-office will generally be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur, as our reports are often published before new companies are known and before they have any established office for the receipt of mail.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year.

All advertising contracts in the Manufacturers Record for three months or longer include a subscription to the Daily Bulletin for the contract period, as well as a subscription to the Manufacturers Record.

BRIDGES, CULVERTS, VIADUCTS

Ala., Demopolis.—Warrior River Bridge Co., W. S. Prout, Prest., asks bids until Dec. 10 to construct lately-noted bridge across Warrior River; steel drawbridge, 150-ft. opening in clear; cost \$40,000 to \$50,000. (See Machinery Wanted—Bridge Construction; Engrs.)

Ala., Flomaton.—Escambia County will construct 375 ft. of bridge over Big Escambia Creek, near Flomaton; County Commrs., Brewton, Ala., receive bids until Dec. 27; bids on both steel bridge with concrete floor and abutments and reinforced concrete bridge; W. S. Keller, State Highway Engr., Montgomery. (See Machinery Wanted—Bridge Construction.)

Tex., Ballinger.—Runnels County Commrs. will construct concrete viaduct across Colorado River; steel bridge now spanning river to be removed to point 10 mi. above city.

Tex., Dallas.—Missouri, Kansas & Texas Ry., L. F. Lounbladh, Ch. Engr., will construct 2 concrete bridges over Turtle Creek, on Fairmont St. and Lemmon Ave.

Tex., Dallas.—Texas & Pacific Ry., C. H. Chamberlin, Chief Engr., Dallas, plans \$1,000,000 expenditure to construct reinforced concrete viaduct from Houston & Texas Central R. R. crossing in East Dallas, to Broadway, near Trinity River; 4 tracks, 2 on each side of street; 2 tracks to be used for main line, right of way and other two for loading and unloading of freight at various industries and house tracks along Pacific Ave.; arrange aprons and unloading platforms to permit lowering of shipments to ground floor or elevated above second story; uniform grade to correspond to second story line of buildings; C. E. Smith, Engr., St. Louis, prepared plans.

Tex., Laredo.—Webb County will construct steel bridge across Santa Isabel Creek; County Commrs. receive bids until Dec. 15; J. A. Rodriguez, County Clerk. (See Machinery Wanted—Bridge Construction.)

W. Va., Huntington.—Cabell County Court, R. S. Douthat, Clerk, asks bids until Jan. 4 to construct superstructure of Four Pole bridge near Marcum's; 600 ft. long; total estimated cost of entire structure \$50,000;

plans by Oliver & Maupin, Engrs. (See Machinery Wanted—Bridge Superstructure.)

W. Va., Welch.—McDowell County Court, W. W. Whyte, Clerk, will construct bridges in connection with 36 mi. road improvements in Sandy River Dist.; bids until Dec. 15; W. J. McClaren, County Road Engr., Welch. (See Machinery Wanted—Road and Bridge Construction.)

CANNING AND PACKING PLANTS

Ala., Birmingham.—Blanks Everett, Acting Gen. Mgr. Chamber of Commerce, plans establishing cannery. (See Canning Machinery.)

Ala., Mobile.—A. D. Davis Packing Co. will rebuild burned packing plant; buildings to cost \$60,000, exclusive of machinery.

Ala., Prichard.—A. D. Davis Packing Co., Mobile, has plans by Henschlen & McLaren, Archts., Chicago, for meat, slaughter and packing plant; 3 stories; 72x167 ft.; brick; will include tankage plant, sweet pickle department, sausage plant, lard refinery, coolers, etc.; apart from packing room will be power and refrigerating plant; latter building to be of brick, 55x73 ft.

Miss., Gulfport.—Gulfport Packing & Trading Co., capital \$30,000, inceptd. by J. B. Humphries, Louis Goldman and T. H. Gleason.

Miss., Laurel.—Glen Fleming, Monteleone Hotel, New Orleans, La., is promoting canning factory; not ready for bids until early in 1917.

Ga., Tifton.—Tifton Packing Co. organized by M. E. Hendry, H. H. Tift, W. W. Banks, T. W. Tift, Briggs Carson and others; plans to establish packing plant, costing \$80,000 to \$100,000. (Mr. Hendry and others noted in Oct. as planning organization of \$150,000 company to build meat plant with contemplated initial daily output of 300 hogs.)

Tenn., Johnson City.—E. C. Allif, Roanoke, Va., is reported to establish tomato cannery.

CLAYWORKING PLANTS

Tex., Post.—Bricks, Tile, etc.—Post City Brick & Tile Co., Verner A. Robinson, Engr., will install equipment, cost \$10,000, in plant to have daily capacity 20,000 bricks and 20,000

drain tile and building blocks. (Lately noted organized, capital \$10,000, to erect plant.)

W. Va., North Mountain.—Bricks, Drain Tile, Sewer Pipe, etc.—Staunton Clay Products Co., C. H. Forry, V.-P. and Mgr., Newark, Ohio, will build plant with daily capacity 100,000 face bricks, 60,000 pavers, 120 tons fireproofing material and 8000 pieces pipe; erect 720x46, 96x50 and 90x45-ft. ordinary-construction buildings; day labor; has contracted for machinery, excepting electric motors; K. R. Forry, Archt. and Construction Engr., care of Scheidler Machine Works Co., Newark, Ohio. C. H. Forry lately noted contemplating establishment of plant. (See Machinery Wanted—Electric Motors.)

COAL MINES AND COKE OVENS

Ala., Birmingham.—Sloss-Sheffield Steel & Iron Co., now operating 1100 beehive coke ovens, continues to have under consideration adding by-product ovens to utilize coal-tar products; reported to build \$2,500,000 by-product coke plant; J. C. Mahen, Prest., wires Manufacturers Record: Building has been deferred until prices of material and deliveries show improvement, as we believe present time is inopportune for the construction of such a large plant. (Previously mentioned.)

Ala., Nauvoo.—Peerless Coal & Mining Co., capital \$30,000, inceptd. by Chas. B. Teasley, W. T. Seibels, C. W. Shackelford and others.

Ala., Tuscaloosa.—Semet-Solvay Co., Syracuse, N. Y., is reported to invest \$250,000 for 2 mine openings and equipment of machinery for coal-land development; this land is a portion of 7300 acres recently purchased from the Alabama Co. at about \$500,000.

Ark., Hartford.—Hartford Valley Fuel Co., capital \$40,000, inceptd. with Wm. McKinley (Prest. Bank of Hartford), Prest.; Jas. McKinley, V.-P.; Carv. Holbrook (Cash. Bank of Hartford), Secy.-Treas.; succeeds Woodson Coal Co.; sink new shaft.

Ky., Fleming.—J. W. Reedy and others will develop Quiller G. Bentley coal lands at mouth of Pottersfork; reported daily capacity, 1000 tons at start.

Ky., Hazard.—Kentucky River Coal Corp., W. S. Dudley, Prest., Lexington, Ky., acting through allied company, Stag Coal Corp., purchased large acreage coal land for about \$100,000; will plan for development.

Ky., Whitesburg.—J. W. Reedy and others of Hazard, Ky., will develop coal mines in Boone's Fork field.

Md., Mt. Savage.—Georges Creek-Parker Coal Co. inceptd. by Raymond A. Walter (Ch. Engr., Maryland division of Consolidation Coal Co.), Foreman H. Schreiber (Supt. of West Virginia & Maryland Gas Co.) and Isaac L. Ritter, all of Frostburg, Md.; leased Cumberland Co.'s 7000-acre coal property; will operate 3 mines with daily capacity 2000 tons coal; plans expending \$100,000 annually for next several years for developments; improvements to include installing new machinery; also piping miners' houses for natural gas, wiring them for electricity and installing modern plumbing.

Tenn., Chattanooga.—Chattanooga Gas Co., S. E. De Frese, Gen. Mgr., writes to Manufacturers Record: Unable at this time to furnish any information on subject of ovens. (Lately reported considering construction of coke oven plant.)

Tenn., Knoxville.—Gold Bond Coal Co., capital \$10,000, inceptd. by J. G. Sterchl, J. F. Deaver, E. R. Deaver and others.

Va., Bristol.—Charles F. Hagan, trustee of Hagan property (30,000 acres coal land) in Scott county, will divide into suitable leases for development; controls water-powers which he plans to have developed to transmit electricity for mining more than 2,000,000 tons coal annually.

Va., Norton.—Gladeville Coal Co., capital \$50,000, inceptd.; W. J. Willits, Prest.; C. G. Watts, Secy.

W. Va., Charleston.—Monongalia Coal Lands Corp. acquires coal properties (22,549 acres) of Western Maryland Ry.; formed as part of plan to segregate railway and coal companies; Western Maryland leases (99 yrs.) to Davis (W. Va.) Coal & Coke Co. all lands, mines, plants, etc., owned by West Virginia Central & Pittsburgh Ry., part of Western Maryland system; Davis corpora-

tion has been operating these properties; mines and mining facilities estimated at \$5,000,000; lands estimated at \$5,637,250; Monongalia Incorporators are: Austin Gallagher, Ind. Commr.; Maxwell C. Byers, Asst. to Prest., and Clarence H. Porter, Ch. Clk. to Prest., of Western Maryland Ry., Baltimore, Md.; Chas. C. Knoblock and Carl F. Differ of Davis Coal & Coke Co. (Monongalia company lately noted chartered with \$4,500,000 capital, etc.)

W. Va., Clothier.—Beech Creek Coal Co., capital \$25,000, inceptd. by A. R. Montgomery, Jr. of Clothier, Geo. F. Tyler and Wm. Dignan, Jr. of Philadelphia, Pa., and others.

W. Va., Lumberport.—Hutchinson Coal Co. of Fairmont, W. Va., will develop 2 new mines in Harrison County, one near Lumberport and other between Clarksburg and Weston; now constructing temporary tipples, to be replaced in spring with steel structures.

W. Va., Williamson.—Rhodell Coal Co., capital \$25,000, inceptd. by W. H. Mannakee of Williamson, J. R. Gildersleeve and A. S. Litz of Tazewell, Va., and others.

COTTON COMPRESSES AND GINS

N. C., Oriental.—Pamlico Ginning Co. will rebuild burned cotton gin.

S. C., Columbia.—W. Gordon McCabe, Jr., Charleston, S. C., purchased Palmetto Compress and plans improvements.

Tex., Houston.—Shippers' Compress Co. increased capital from \$200,000 to \$300,000.

COTTONSEED OIL MILLS

Tex., Jayton.—Jayton Cotton Oil Co., capital \$70,000, inceptd. by R. A. Jay and W. S. Hancock of Jayton, J. L. Jones of Rule, Tex., and others.

DRAINAGE SYSTEMS

Ark., Wilson.—Morgan Engineering Co., 608 Goodwyn Institute Bldg., Memphis, Tenn., completed plans for the drainage of 80 acres, for alfalfa planting; tile to be spaced at 50 ft. intervals; construction contract to be let.

Ga., Lawrenceville.—Sweetwater Drainage Dist. is being organized by Isaac L. Oakes, Atty., and others, with view to letting drainage contract in spring; bond issue contemplated.

La., Crowley.—Acadia Parish, First Ward Drainage Dist., votes Dec. 30 on \$100,000 bonds to construct drainage system; Wallace Dupont, Prest. Drainage Com.

Miss., Carthage.—Standing Pine Drainage Dist., No. 1; Leake County, will issue \$10,000 bonds; N. F. Wallace, Chancery Clerk, Carthage.

Miss., Effie.—Morgan Engineering Co., 608 Goodwyn Institute Bldg., Memphis, Tenn., is making surveys for the drainage of 1000 acres, for cotton production; construction contract to be let.

Mo., Gregory Landing.—Gregory Drainage Dist., No. 1; P. Foley, Secy., let contract R. H. and G. A. McWilliams, McCormick Bldg., Chicago, to construct 7½ mi. levee and 7 mi. canals; 450,000 cu. yds. excavation; Morgan Engineering Co., Engr., 608 Goodwyn Institute Bldg., Memphis, Tenn. (Lately noted inviting bids.)

ELECTRIC PLANTS

Fla., Vero.—Vero Electric Light & Ice Co. organized by N. J. Norman and others; will build electric-light and ice plant. (Lately noted.)

Mo., Atlanta.—Belmer & Newmyer applied for franchise; town has 600 population; vote on Dec. 18; arrangements probably complete for material and plant, in case franchise vote carries; otherwise, 24 hours' service may be used, with electricity supplied from municipal plant, Macon, Mo., 12 mi. distant; C. F. Thudum, Supt. (Lately noted.)

Mo., Joplin.—City contemplates voting on \$175,000 bonds to construct electric-light and ice plant. Address The Mayor.

Mo., Newton.—City contemplates voting on bonds to construct electric-light plant. Address The Mayor.

Okla., Dilworth.—Dilworth Power & Light Co., capital \$2000, inceptd. by J. A. Frates and

J. A. Frates, Jr., of Springfield, Mo., and J. H. Grant of Oklahoma City.

Okla., Mountain Park.—City voted \$4500 bonds to install electric-light plant. J. P. Penn, Pres. of Board. (Lately noted.)

Okla., Rocky.—Rocky Light Plant, C. A. Mayhew, Mgr., expends \$2000 to construct lately-noted electric-light plant; 15 K. V. A., A. C. generator, 15 H. P. oil engine, frame building; construction by the company; 3500 ft. transmission.

Tex., Atlanta.—Atlanta Electric & Ice Co. will rebuild plant reported burned in Sept. at loss of \$30,000.

Tex., Brownwood.—Texas Power & Light Co., W. P. Murphy, Local Mgr., will install larger engines to generate electricity to supply various cities in vicinity of Brownwood, etc.; also reported to extend transmission system to include Stephenville and Dublin. (See Gas and Oil Enterprises.)

Tex., Forney.—City Council contemplates new lighting system. Address The Mayor.

Tex., Higgins.—City voted bonds to install electric-light system and water-works. Address The Mayor.

Tex., Kemp.—Installation of electric-light system is contemplated. Address The Mayor.

Tex., Mabank.—Installation of electric-light system is contemplated. Address The Mayor.

Tex., Newcastle.—Newcastle Light & Power Co., R. H. Helm, Secy.-Treas., lately noted to have franchise, will install plant to cost \$8000; develop 100 to 125 H. P.; J. A. Nelson, Engr. (See Machinery Wanted—Electric-light Equipment.)

Tex., Garwood.—J. J. Cooper and associates contemplate constructing electric-light and power plant.

Tex., Gustine.—W. T. Ball, Comanche, Tex., is reported to contemplate installation of electric-lighting system.

Va., Franklin.—City will issue \$40,000 bonds to improve electric-light plant, etc.; W. O. Bristow, Finance Commr. (See Water-works.)

FERTILIZER FACTORIES

S. C., Rock Hill.—Rock Hill Fertilizer Co. will build plant; 100x180 ft.; cost of building \$15,000 to \$20,000; install mixing machinery, acid elevators, bagging and printing apparatus; daily capacity 150 to 200 tons; let building contract to C. A. Dobbins.

FLOUR, FEED AND MEAL MILLS

Ala., Decatur.—F. W. Webster & Son will build feed, meal and grain mill at foot of Bank St., on Tennessee River; manufacture feedstuffs and meal; daily capacity 50 tons.

Ala., Selma.—People's Cotton Oil Co. will install machinery to manufacture mixed feed.

Ga., Marshallville.—Marshallville Milling Co. organized; will establish feed mill; purchased machinery.

N. C., Charlotte.—John L. Scott of Scott Brokerage & Commission Co. will establish corn mill.

S. C., Darlington.—Darlington Wheat & Corn Roller Mills will increase daily capacity of mill from 50 to 100 bbls. flour.

Tenn., Friendship.—E. A. Robertson will install flour mill; ordered machinery.

Tenn., Glenison.—J. E. Watson purchased and will remodel grist mill.

Tex., Burleson.—Burleson Mill & Elevator Co., J. M. Senter, Pres., will erect lately-noted building; cost \$500; open bids Dec. 15; install machinery, cost \$500; produce peanut meal and corn goods; daily capacity 2 cars.

Tex., El Paso.—A. P. Coles is interested in proposed establishment of 100-bbl. flour mill by representatives (names not announced) of flour mill company.

Va., Graham.—Graham Eclipse Milling Co. will improve plant; increase daily capacity to 250 bbls. flour, double present capacity; ordered additional machinery; expend \$10,000.

W. Va., Hamlin.—Louis R. Sweetland will build flour and grain mill.

FOUNDRY AND MACHINE PLANTS

Ark., Jonesboro.—Ditching Machines.—Williams Rotary Ditching Machine Co. Incptd., capital \$100,000; J. W. Roy, Pres.; J. W. Watkins, Secy.; will manufacture ditching machines and road builders; pending installation of plant may let contracts for manufacture of machines. (See Machinery Wanted—Ditching Machine Construction.)

Ga., Valdosta.—Car-wheel Clamp.—Williams Wheel Clamp Co., capital \$31,000, incptd. by

W. B. Conoley, W. M. Howell, A. J. Smith and Jas. M. Williams.

La., New Orleans.—Gas Generators.—Standard Gas Generator Co., Louis A. Murphy, Engr., proposes to establish plant for manufacturing gas generators.

Md., Towson.—Special Machinery.—Black & Decker Mfg. Co., 100 S. Calvert St., Baltimore, writes to Manufacturers Record: We are not ready to make a statement regarding plans for our Towson property. (Refers to report that the company will build machinery plant on site lately purchased.)

W. Va., Sistersville.—Boilers, etc.—Sistersville Boiler Works, E. A. Ryan, Pres., advises Manufacturers Record: Will construct building 100x110 ft., with lean to 30x110 ft., modern type steel structure, cost about \$25,000; use present machinery, with addition of two 10-ton hand-drive and lift cranes and 5-ton crane, same type; also horizontal punch, capacity 1-in. hole in 1-in. plate, belt driven; install one 60 and one 30 H. P. gas engine; Bellefontaine Bridge & Steel Co., Bellefontaine, O., Contr. for building.

W. Va., Huntington.—Iron Works.—Huntington Iron Works, capital \$30,000, incptd. by E. A. Reich, R. O. Reich, C. M. Farrington and others. (Lately noted as advising Manufacturers Record: Have ground 200x200 ft., with building for ornamental and light structural departments; expect to erect building for structural fabricating department; construction by the company, which will purchase materials not fabricated by itself; manufacturers structural steel, ornamental iron and wire products, bronze and brass grills.)

GAS AND OIL ENTERPRISES

Ark., Fort Smith.—Oil Refinery.—Ozark Refining Co., capital \$25,000, incptd. by Alex. Calvert, Chas. C. Dotto and Kathryn E. Dotto.

THE OFFICIAL PROPOSAL ADVERTISEMENTS

Appear This Week On Pages 100 and 101

Notices of bond sales, construction and improvement contracts to be let, equipment and supplies to be purchased, franchises offered, etc., inserted in this department bring bids from the most important bond buyers, investors, financial institutions, contractors, engineers, architects, manufacturers, and supply houses throughout the country.

Rate 25 cents per line per insertion.

The PROPOSAL department goes to press 9 A. M. Wednesday for the issue of the following day. If you cannot mail advertisement in time for any particular issue please wire copy by night letter.

Send for booklet of testimonial letters from public officials who have used the PROPOSAL department of the Manufacturers Record, for bond sales, construction work, etc.

Ark., Texarkana.—Sims Oil Co., capital \$30,000, incptd.; T. A. Sims, Pres.; Ben Wilson, V.-P.; F. W. Offenhausser, Secy.-Treas.

Ky., Louisville.—Oil Fork Development Co., capital \$80,000, incptd. by C. B. Blakey, Irvin Marcus and J. Starr.

Ky., Louisville.—Oil Refinery.—Standard Oil Co. of Kentucky, Crittenden T. Collins, Pres., will have plans and specifications prepared for oil refinery; manufacture variety of oils, including gasoline; annual capacity, 500,000 bbls.; estimated cost \$1,000,000. (Lately noted.)

La., Thibodaux.—Bayou Cane Petroleum Co., capital \$50,000, incptd. by Geo. F. Payne of Thibodaux, Henry Burgard, 2389 Berlin St., New Orleans; Jos. U. Folse, Paincourtville, and others.

Mo., Sheffield.—Oil Refinery.—North American Oil & Refining Corp., Kansas City, Mo., is reported to have leased 9 acres in Sheffield Blue Valley Dist. on which to build oil refinery; initial expenditure \$100,000 and capacity for first year 9000 carloads; understood that \$100,000 plant is to be first unit in refinery to represent investment of \$25,000,000.

Okla., Alene.—Alene Oil Corp., capital \$20,000, incptd. by Chas. Geist, H. A. Lile, S. C. Timmons and L. H. Stephens.

Okla., El Reno.—Landowners' Oil & Gas Development Co., capital \$35,000, incptd. by W. A. Maurer, Lucius Babcock and J. L. Trevathan.

Okla., Healdton.—Oil Pipe Line.—Pierce Oil Corp., 420 Olive St., St. Louis, will construct

8-in. oil pipe line from Healdton field to Fort Worth, Tex.; length, 100 mi.; cost about \$1,000,000; is about ready to let contract; line, when completed, will add about 25,000 bbls. per day to pipe line capacity of Healdton field.

Okla., Okmulgee.—Solander Oil Co., capital \$5000, incptd. by O. D. Standsbury, T. D. Harris and E. T. McDowell.

Okla., Oklahoma City.—Shelby Oil & Gas Co., capital \$100,000, incptd. by V. A. Sniggs, W. T. Perry and O. C. Patterson.

Okla., Ringling.—Little T. D. Oil Co., capital \$15,000, incptd. by T. D. Wagner, T. J. Wagner and C. G. Wagner.

Okla., Sapulpa.—Oil Refinery.—Paramount Oil & Refining Co., is reported as organized by Baltes B. Barnett, H. A. LaFont and Richard Steinhofst of Okmulgee to build oil refinery.

Okla., Tulsa.—Oil Refinery.—Brazilian Oil & Refining Co., capital \$100,000, incptd. by R. H. Kistler of Tulsa, R. P. Kistler, Chandler and E. L. Kistler of Muskogee.

Okla., Tulsa.—Inter Lake Oil & Gas Co., capital \$75,000, incptd. by D. D. Quackenbush and E. T. Nienast of Wirt, Okla., and W. H. Smith of Rush Springs, Okla.

Okla., Tulsa.—Gasoline.—Atlantic Gasoline Co., capital \$50,000, incptd. by H. B. Gutellus, O. T. Dawson and F. I. Louis.

Okla., Yale.—Tulmoge Oil & Gas Co., capital \$5000, incptd. by L. H. Harrell, J. W. Weber and L. W. Scherer.

S. C., Starr.—Acetylene Gas.—Carolina Acetylene Gas Co., capital \$2500, incptd. by J. J. Jones and M. L. Mouchet.

Tex., Beaumont.—O'Byrne Oil Co., capital \$5000, incptd. by J. G. Taylor and Horace Williams of Beaumont, Pat O'Byrne of Orange, Tex., and others.

Tex., Brownwood.—Gas Plant.—Texas Power & Light Co., W. P. Murphy, Local

still stills, condensers, etc.; plant previously used mainly for manufacture of lubricants, but will now also manufacture gasoline.

HYDRO-ELECTRIC PLANTS

Okla., Oklahoma City.—Southwestern Power, Light & Ry. Co., 406 Security Bldg., will issue about \$1,000,000 in bonds for construction of hydro electric plants on Washita River, beginning at Lindsay, Okla., on down to Crusher Station—about 5 plants; contemplates furnishing electricity to Ardmore, Oklahoma, Shawnee and other cities; W. T. Crolsen, Consult. Engr., Oklahoma City. (In Sept., 1915, these plans were noted and proposed work described, with the company capitalized at \$3,000,000 to develop water-powers and build interurban railway; ultimate development then stated to be 75,000 H. P.)

Va., Bristol.—Charles F. Hagan controls water-powers which he plans to have developed to transmit electricity for mining more than 2,000,000 tons coal annually.

ICE AND COLD-STORAGE PLANTS

Fla., Vero.—Vero Electric Light & Ice Co. organized by N. J. Norman and others; will build ice and electric-light plant. (Lately noted.)

Mo., Warrensburg.—Roseland Farm & Mfg. Co., Wm. Shockey, Pres.-Mgr., will erect ice-storage building; cost about \$8000; brick, with cork insulation; brick work contract let to E. Inman; plans by Smith, Res & Lovitt, Kansas City.

Miss., Greenville.—Greenville Ice & Coal Co. will build 50-ton raw water ice plant to be operated in connection with present 100-ton distilled water ice system; increase ice-storage capacity from 1000 to 2000 tons.

Mo., Kirksville.—Missouri Heat, Light & Power Co. contemplates building ice-storage house and boiler house; cost \$15,000.

Mo., Grant City.—Grant City Electric Light Co. has plans for 6-ton ice plant to be operated in connection with electric-light system.

Mo., Joplin.—City contemplates voting on \$175,000 bonds to construct ice and electric-light plant. Address The Mayor.

Mo., Moberly.—Moberly Artificial Ice Co. will erect addition to ice plant and install machinery to double capacity; also provide cold storage sufficient for 10,000 bbls. apples; plans by Tait-Nordmeyer Engineering Co., St. Louis, Mo.

Mo., St. Joseph.—Frank Brinson contemplates installing 100-ton ice plant in Ullman Bldg., at Sixth and Atchison Sts.

Okla., Oklahoma City.—Steffen-Bretch Ice & Ice Cream Co. is reported to build ice-storage and cold-storage warehouse of 300,000 cu. ft. capacity; ice storage capacity 3000 tons; cold storage for apples, produce, etc.; install additional refrigerating machinery.

Okla., Okmulgee.—Okmulgee Ice & Light Co., C. H. Kretz, Mgr., will install additional machinery to double capacity of present 50-ton ice plant; also erect ice and cold-storage plant.

Okla., Shattuck.—Railways Ice Co. will build ice factory; daily capacity 50 tons.

Okla., Woodward.—Railways Ice Co. will build 3-story cold-storage warehouse; provide space for storage of meat, poultry, eggs, etc.

Tenn., Knoxville.—Armour & Co. will remodel plant and install refrigerating equipment; cost about \$5000.

Tex., Atlanta.—Atlanta Electric & Ice Co. will rebuild plant reported burned in Sept. at loss of \$30,000.

Va., Petersburg.—Wm. A. Barris, care Young Men's Christian Assn., advises Manufacturers Record: Represent party interested in building ice plant; modern plant to supply town of 5000 population; ready to consider plans and estimates. (See Machinery Wanted—Ice Plant.)

Va., Roanoke.—Virginia Fruit Produce Co., L. A. Scholz, Pres. and Gen. Mgr., will install improved equipment for ice manufacture and cold storage. (See Miscellaneous Factories.)

W. Va., Glendale.—Glendale Ice Co., Moundsville, W. Va., will operate raw water ice plant, 40 tons daily capacity; contract let Oct. 25 to York Mfg. Co., York, Pa.; building 78x34 ft., brick and steel; O. B. Bonar, Pres.; C. E. Hennen, V.-P.; J. M. Schank, Secy.-Mgr. (Noted incptd. in Aug., capital \$50,000.)

IRON AND STEEL PLANTS

Ga., Rome—Iron Furnace, etc.—Matthews Iron & Mining Co., capitalization \$200,000, incptd. by H. S. Matthews (formerly Pres. of Consolidated Coal & Iron Co.), J. W. Porter and Y. A. Dyer, all of Birmingham, Ala. (Noted in November as having purchased and to rehabilitate Silver Creek furnace; blow in with daily output 100 to 125 tons iron; lease 320 acres iron ore and limestone property; develop to supply furnace; construct 2-mi. railway to mines.)

La., Shreveport—Iron Furnace.—United States Reduction Co., B. F. Wood, Pres., 61 Broadway, New York, is reported to build plant for smelting Texas iron ore; use natural gas process (instead of coke) invented by Chas. S. Bradley of New York; use ores from Texas fields of Texas Steel Co., L. S. Featherstone, Pres., Beaumont, Tex.; Mr. Wood wires Manufacturers Record: Plant now in contemplation for developing purposes only; writes to Manufacturers Record: Intention is to construct small plant for experimental and development purpose; as soon as this can be carried through and certain necessary data secured from this plant, building plant on commercial scale will be undertaken by Texas Steel Co., who have entered into contract for use of this process in connection with iron ore deposit in Cass County, Tex.

Md., Sparrows Point—Iron Furnaces, etc.—Bethlehem Steel Corp., South Bethlehem, Pa., will build additional gas-driven blowing engine-house and an extension to present house; install gas-driven electric engine plants; let contract to Irwin & Leighton, Philadelphia, Pa.; contract reported to amount to \$300,000. (Lately invited bids.)

Tenn., Dayton—Iron Furnace, etc.—Dayton Iron Co., capital \$500,000, chartered by A. P. Haggard of Dayton, John Stalgrmaier, M. M. Allison, E. B. Thomas and J. J. Lynch of Chattanooga, Tenn.; plans to buy Dayton Coal & Iron Co. properties, including iron furnace, coal mines, iron ore deposits, etc.

LAND DEVELOPMENTS

Ark., De Queen.—De Queen Land & Fruit Farm Co., capital \$500, incptd.; E. C. Hayes, Pres.

La., Kenner.—Kenner Project, P. Sefton Schneidau, Local Agent, New Orleans, will develop property near Kenner, comprising 6000 acres extending to Lake Pontchartrain; improvements to include construction of about 4 mi. gravel roads connecting with paved streets of Kenner, clearing and grubbing of timber land preparatory to cultivation, etc.; has expended \$100,000 for drainage system especially adapted to growing of truck crops; W. P. Longworthy, Engr., New Orleans.

N. C., Raleigh.—Linden Land Co., capital \$20,000, incptd. by W. B. Drake, Jr., S. K. Hindsdale and E. V. Denton.

N. C., Raleigh.—Norfolk Southern Farms, authorized capital \$1,000,000, chartered by Edw. C. Bailey of White Plains, N. Y.; Cyril J. Curran and Richard S. Coe of New York; plans to develop 45,000 acres Eastern North Carolina farm land purchased from John L. Roper Lumber Co. by Mark W. Potter, New York, Pres. Carolina, Clinchfield & Ohio Ry., and associates; development plans include 175 mi. drainage ditches during next 3 yrs.; 2 steam dredges now at work; lateral ditches between ditches of main drainage system; establish experimental farms; divide into farms with necessary buildings for sale to farmers; property is located on Norfolk Southern Ry., of which John L. Roper Lumber Co. is subsidiary.

LUMBER MANUFACTURING

Ala., Montgomery.—Cramton Lumber Co. will build planing mill; brick walls; fire-proof roof; sprinkler system; cost \$5000.

Ala., Montgomery.—Montgomery Lumber & Mfg. Co. purchased tract of timber land containing several million feet of pine and hardwoods; constructing sawmill, planing mill and drykiln.

Ark., Chicot County.—Geo. C. Brown Lumber Co., Memphis, Tenn., purchased 6600 acres timber land in Chicot County, Ark., and 7000 acres timber and stumpage in Calhoun and Grenada counties, Miss.; plans to erect saw mill of 40,000 ft. daily capacity, either at Grenada or Calhoun City and standard gauge railroad about 35 mi. long, from Grenada or Calhoun City into timber land; also owns other stumpage near Chicot County tract and plans in near future to erect mill, probably at Lake Village.

Ark., Luxora.—Garden Land & Timber Co., capital \$1500, incptd. by Geo. E. Carten, Alvin Wunderlich and A. C. Eckert.

Ark., Marianna.—Home Lumber Co. organized with J. O. Payne, Pres.; J. M. Hewitt, V.-P.; O. G. Norment, Secy.-Treas.

Fla., Dunnellton.—Spinks Mfg. Co., capital \$50,000, incptd.; Z. Spinks, Pres.; T. B. Lanier, V.-P.; L. W. Duval, Secy.-Treas.

Fla., Jacksonville.—American Pine & Cypress Co., Leland O. Cox, Pres., 618 Atlantic Bank Bldg., will establish sawmill for pine and cypress lumber; erect frame-construction building, with metal roof, cement floor and electric lighting; daily capacity 25,000 ft. (See Machinery Wanted—Sawmill Equipment.)

Fla., Jacksonville.—Gress Mfg. Co. will rebuild plant reported burned at loss of \$100,000.

Fla., Wilmarth.—L. B. Sutton Lumber Co. will rebuild sawmill reported burned at loss of \$15,000.

Ga., Albany.—Southern Lumber & Tie Co., capital \$10,000, incptd. by A. H. Stephenson, Raymond Werdon and others.

Ga., Atlanta.—Traynham Lumber Co., capital \$30,000, incptd. by W. L. Traynham, E. L. Traynham, Walter Lawrence and C. B. McGaughey.

Ga., Saperton.—Durden Lumber Co. will rebuild burned saw mill.

Ga., Valdosta.—Williams Lumber Co., capital \$5000, incptd. by H. R. Williams and W. A. Williams.

Ky., Mayking.—T. S. Sherman, Jackson, Ky., purchased timber properties along Pine Creek and Bottomfork; reported to install mills.

La., Baldwin.—Baldwin Lumber Co. will rebuild mill lately noted burned at loss of \$55,000.

La., Derry.—Richards Lumber Co., capital \$200,000, organized with E. Elias Richards, Pres.; T. H. Watkins, V.-P.; Maurice Rosenthal, Secy.-Treas.; purchased standing timber in Natchitoches Parish, and will build mill with daily capacity 50,000 ft. lumber.

N. C., Bolton.—Waccamaw Lumber Co. will rebuild plant lately noted burned at loss of \$200,000.

N. C., Charlotte.—Mecklenburg Lumber Co., capital \$25,000, incptd. by R. H. McLaughlin, R. W. Beaty and B. E. Barksdale.

Okla., Picher.—Picher Lumber Co., capital \$5000, incptd. by M. A. Quillan of Picher, W. A. Cline and May Cline of Carthage, Mo.

S. C., Charleston.—Horry Red Cypress Co., capital \$150,000, incptd. by L. D. Lide and H. S. McCandlish.

Tex., Grayburg.—Wm. Graydon will build hardwood mill; cut hardwood on timber lands of Thompson & Ford Lumber Co.

METAL-WORKING PLANTS

Fla., Dade City.—Valves.—E. M. Scoville will build plant to manufacture valves; let contract to erect building to Mutual Construction Co.

MINING

Ala., Clanton.—Dixie Developing & Mining Co. increased capital from \$5000 to \$50,000.

Ala., Clay County.—Graphite.—Acme Graphite Co., capital \$125,000, incptd. to mine graphite in Clay County; E. J. Eisenmeyer, Pres., Springfield, Mo.; A. W. Shultis, V.-P. and Treas., Independence, Kans.; L. H. Weller, Secy. and Asst. Treas., Birmingham.

Ala., Lineville.—Graphite.—American Graphite Co., capital \$40,000, incptd. by S. L. Brewer of Tuskegee, Ala.; S. C. Doby and L. G. Brantley of Atlanta, Ga., and others; acquired 160 acres 4 mi. from Lineville; will mine and mill graphite; erect buildings; install crushing and milling machinery; daily capacity, 2 tons refined graphite.

Ark., Everton.—Iron.—Everton Mining & Development Co., Albert C. Speirs, Mgr., plans to expend \$100,000 in development of property; install additional 100-ton ore mill, electric-light system, etc.; building town to be called Speirtown.

Ark., Yellville.—Lead and Zinc.—A. J. Wessel leased 40-acre mining tract.

Ark., Buffalo.—Lead and Zinc.—F. C. McClanahan of Little Rock leased Lion Hill mine; will rebuild 100-ton mill.

Ark., Little Rock.—Monkey Hill Mining Co., capital \$10,000, incptd. by W. G. Hutton, J. G. Tillar and W. G. Harkey.

Ga., Dahlonega.—Gold.—Crown Mountain Mining & Power Co., W. F. Aldrich, Pres., will increase capital to further developments; mines, now equipped and operating,

have daily output of 100 tons gold-bearing sand and quartz ore. (See Machinery Wanted—Mills; Potassium Cyanide.)

Ky., Freestone.—Stone.—Blue Grass Quarries Co. incptd.; capital \$25,000; B. B. Burnes, Pres.; C. S. Brown, V.-P. and Mgr.; M. N. Offutt, Secy.; O. M. Brown, Treas.; will develop 123 acres; stone quarry and mill products—Kentucky bluestone.

Mo., Joplin.—Lead and Zinc.—A. T. S. Mining Co., capital \$300, incptd. by V. F. Swan, A. T. Swan and F. M. Perkins.

Mo., Joplin.—Lead and Zinc.—Lucky Bill Mining Co., capital \$300,000, incptd. by J. C. Marcum, L. E. Moses and Howard Vandelslice.

Mo., St. Louis.—Zinc.—Max Tamm, Pres. Tamm Bros. Glue Co., 618 S. Vandeventer Ave., plans zinc development in Southern Missouri; writes to Manufacturers Record: We are sending first car of calamine ore to smelter; produce jack ore by Jan. 1; will not install mill before spring.

North Carolina.—Graphite.—General Graphite Co., 1824 Jefferson Bank Bldg., Birmingham, Ala., will organize to develop graphite property in North and South Carolina; directors to include J. Standish Clark, Acting Mgr., Birmingham; M. W. Monahan, Pres., Atlanta, Ga.; F. C. Smith, Cincinnati, O., and others.

N. C., Newbern.—Mari.—Consumers' Mari Co., capital \$100,000, incptd. by A. J. Joyner, Newbern; S. F. Austin, Nashville, N. C., and W. S. Harris, Wilson, N. C.

Okla., McAlester.—Great Western Mining Co., capital \$150,000, incptd. by T. W. Wheatley, W. E. Hailey and D. M. Hailey.

Okla., Muskogee.—Zinc.—Standard Zinc Corp., capital \$500,000, chartered by S. M. Roadcap, J. F. Lafferty and J. E. Sullivan.

Tex., Van Horn.—Copper.—Robt. H. Bruce, Austin, Tex., plans development of copper mine in Culberson County; W. B. Phillips, Consol. Engr., 507 W. 33d St., Austin, Tex.

Va., Strasburg Junction.—Limestone.—M. J. Grove Lime Co., Frederick, Md., purchased 20 acres limestone land and will develop.

W. Va., Huntington.—Stone.—Blue Grass Quarries Co., lately noted incptd., will operate quarries at Freestone, Ky. (See Ky., Freestone.)

MISCELLANEOUS CONSTRUCTION

Fla., Daytona Beach.—Pier, etc.—City votes Dec. 14 on \$16,000 bonds, of which \$13,000 will be expended for purchase of Keating Casino and Pier, repairing and altering both pier and casino, so as to provide for city hall, fire station, city pier, etc.; \$3500 to pave Seabreeze Ave. and other streets and install surface drains on Seabreeze Ave. Address The Mayor. (Lately noted.)

Ga., Macon.—Docks.—Macon-Atlantic Navigation Co., A. J. Long, Pres., plans to extend dock facilities at foot of Seventh St.

La., Alexandria.—Levee.—Red River, Atchafalaya and Bayou Boeuf Levee Board let following contracts for levee construction: C. Nordstrom, South Atlantic Levee from city limits to end of gravel road, Rapides parish, Red River, right bank, riverside enlargement, 125,000 cu. yds.; Lower Coast Construction Co., Coco Point to "V" Levee, Avoyelles parish, Bayou des Glaizes, right bank, riverside enlargement, 300,000 cu. yds. (Lately noted inviting bids.)

La., Lake Charles.—Dredging.—Comms. Calcasieu Navigation Dist. ordered election for Dec. 27 to vote on \$260,000 bonds to deepen Intercoastal Canal between Calcasieu and Sabine Rivers to 12 ft.

Md., Cumberland.—Subway.—Baltimore & Ohio R. R. (R. N. Begien, Chief Engr., Baltimore) let contract Vang Construction Co. of Cumberland to construct substructure of Green St. subway at Cumberland, and to Fort Pitt Bridge Co. of Fort Pitt, Pa., to construct superstructure; estimated cost \$70,000. (Noted in August.)

Mo., Kansas City.—Heating Plant.—Kansas City Light & Power Co. will erect addition to heating plant; plans involve excavation 40 ft. deep.

N. C., North Wilkesboro.—Dam.—City contemplates constructing concrete dam across Reddies River to replace structure destroyed by July flood; height, about 21 ft.; 27 ft. thick at bottom and 6 ft. at top; contain about 2000 cu. yds. concrete; Robbins & Rand of Winston-Salem are lowest bidders at \$17,000.

Tex., Dallas.—Subways.—Missouri, Kansas & Texas Ry., L. F. Lonnbladh, Chief Engr., Dallas, contemplates expending \$600,000 to eliminate grade crossings; proposes to con-

struct subways at Maple and Lemmon Ave., Cedar Springs Rd., Routh and Sneed Sts.

Tex., Galveston.—Bulkhead.—City let contract Blodgett Construction Co., Galveston, at \$6001.60 to construct concrete bulkhead along crest line of beach improvement all, 200 ft. north of Galveston County seawall, from 6th to 18th St.; length 4840 ft.; H. O. Sappington, Commr. of Streets and Public Property; A. T. Dickey, City Engr. (Lately noted inviting bids.)

Va., Norfolk.—Inland Waterway.—Government, Col. J. P. Jervey, U. S. Dist. Engr., Norfolk, let contract to Atlantic, Gulf & Pacific Co., New York, for \$720,000 worth of construction for Norfolk to Beaufort inland waterway at 14¢ cents per cu. yd. for dredging; Government will undertake \$280,000 portion of the work; this will cover the \$1,000,000 appropriation for year ending June 30, 1917; completion of this \$1,000,000 worth will about half complete the waterway systems; section from Norfolk to Albemarle Sound; Atlantic, Gulf & Pacific Co., Park Row Bldg., New York, wires and writes to Manufacturers Record: There is at present \$720,000 available for contracts on inland waterway between Norfolk and Albemarle Sound; as much work under this contract as can be done for this amount at the price of 14¢ cents per cu. yd.; the work will be Virginia Cut, North River, North River Bar and North Landing River, all in North Carolina; channel varies from 90-ft. bottom width in land cuts to 250-ft. bottom width in open river and bay cuts; depth to be made, 12 ft. below mean low water; all work is for hydraulic pipe line dredges, except bar at mouth of North River, which will be either with clam-shell or hopper dredge.

MISCELLANEOUS ENTERPRISES

Ala., Mobile.—Printing.—Delchamps Heiter Printing Co., capital \$10,000, incptd.; W. B. Delchamps, Pres.-Treas.; Wm. Heiter, V.-P. and Gen. Mgr.; Jas. E. Duggan, Secy.

Ala., Birmingham.—Mineral Water.—Southern Mineral Waters Co., capital \$5000, incptd.; J. W. Patton, Pres.; N. N. Collier, V.-P. and Treas.; C. D. Weller, Secy.

Ark., Jonesboro.—Ditching Machines.—Williams Rotary Ditching Machine Co., lately noted incptd., capital \$100,000, will manufacture ditching machines. (See Foundry and Machine Plants.)

Ark., Manila.—Livestock.—Dixie Livestock Co. incptd. by C. L. Caldwell, Rhuln A. Ashabanner and A. S. Rogers.

Ga., Atlanta.—Laundry.—Greenblatt Laundry Co. will erect laundry; 2 stories; 50x110 ft.; brick; cost \$15,000; day labor.

Ga., Atlanta.—Dry Cleaning.—Excelsior Laundry Co. will erect dry cleaning plant; 2 stories; brick; 50x60 ft.; cost \$8000; day labor.

Ga., Savannah.—Lumber Vulcanizing.—Georgia Lumber Vulcanizing Corp., capital \$200,000, chartered by Thos. Purse, John G. Kennedy and John S. Ryan.

Ky., Louisville.—Scrap Iron and Metal.—Nathan Scrap Iron & Metal Co., capital \$10,000, incptd. by Goldie Nathan, Henry E. Nathan and Alfred Marcus.

Md., Baltimore.—Steamship Line.—Venado Plantations Co., 220 St. Paul St., incptd. with \$100,000 capital by Chas. Melville Brown, Emil Frick and Chas. C. Knobloch; Sam S. Field, 220 St. Paul St., Res. Agt.; plans to establish fruit steamers between Panama Canal Zone, Baltimore and other cities, in addition to development of orange and coconut plantations in Panama Canal Zone.

Mo., Joplin.—Electrical Supplies.—Electrical Supply Co., capital \$10,000, incptd. by C. H. Belden, E. M. Confer and Rex Chamblin.

Mo., St. Louis.—Electrical Appliances.—Electric Material Co., capital \$5000, incptd. by C. R. Baldwin, C. J. Cumminskey and W. L. Cumminskey.

Mo., St. Louis.—Gibbons & Lohn Dyeing & Dressing Co., 409 S. 2d St., leased plant at Kingshighway and Missouri Pacific Ry. tracks; will remodel for cleaning, dressing and dyeing furs; floor area, 60,000 sq. ft.

Mo., St. Louis.—Heating and Ventilating.—Dunmore Heating & Ventilating Co., capital \$50,000, incptd. by Geo. A. Deemar, John W. Marex and Michael Jerco.

Mo., St. Louis.—Hardware.—Esphorst Bros. Hardware Co., capital \$2500, incptd. by John Esphorst, F. J. Schroeder and Harry J. Esphorst.

N. C., Sanford.—Transfer.—Morgan Transfer Co., capital \$2500, incptd. by J. F. Morgan, W. B. Wilkins and R. H. Thomas.

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Okl., Oklahoma City—Grain Elevator.—Conyers Grain Co., capital \$5000, incptd. by R. H. Conyers and S. M. Conyers of Oklahoma City and H. W. Conyers of Foraker, Okla.

S. C., Beaufort—Publishing.—Leader Publishing Co., capital \$5000, incptd. by E. B. McSwaney and C. Reid Elkins.

S. C., Columbia—Floral.—Columbia Floral Co., incptd.; A. F. Becker, Prest.; Maes Halliwell, Secy.-Treas.

Tenn., Memphis—Contracting.—Merrill System Building Co., capital \$15,000, incptd. by L. W. Taylor, L. M. Weathers, F. S. Elgin and others.

Tex., Galveston—Incinerator.—Establishment of garbage-disposal plant is reported contemplated, with survey being made by R. W. E. Thompson, Augusta, Ga.

Tex., Houston—Greenhouses.—R. C. Kerr, florist, will expend \$50,000 to erect 24 greenhouses, each 125x150 ft., with 37,000 sq. ft. planting surface.

Va., Harrisonburg—Hatchery.—Harrisonburg Hatchery Co., capital \$5000, incptd.; E. D. Davis, Prest.; G. K. Spitzer, Secy.

W. Va., Bluefield—Printing.—Daily Telegraph Printing Co., H. I. Short, Prest., let contract to Pedigo & Garry, Bluefield, to erect 52x86-ft. factory-construction building for printing plant; 2 floors and basement; includes rebuilding of present office, etc.; install new printing, bookbinding and lithographing machinery.

W. Va., Logan—Printing.—Logan Printing Co., capital \$25,000, incptd. by Geo. S. Aldridge, J. Cary Alderson and S. B. Robertson of Logan, A. H. Land of Stone Branch, W. Va., and Geo. Byrne of Charleston, W. Va.

W. Va., Welch—Dry Cleaning.—Modern Dry Cleaning Works will rebuild plant reported burned at loss of \$8000 to \$10,000 on equipment.

MISCELLANEOUS FACTORIES

Ala., Andalusia—Creamery.—W. B. Harley of Seabright, Ala., and others will establish creamery.

Fla., Jacksonville—Art Stone.—Cut Art Stone Co. (not "Central" Art Stone Co.), J. M. Arnold, Supt., 425 E. 8th St., will manufacture cut art stone; plant is in operation; machinery includes air compressor for cutting stone and tamping concrete; wood-working and polishing machinery, etc.

Fla., Live Oak—Bottling.—Live Oak Coca-Cola Bottling Co., capital \$20,000, incptd.; T. J. Rhodes, Prest.; M. A. Rhodes, V.-P.; J. L. Rhodes, Secy.-Treas.

Fla., Millville—Shipbuilding.—J. M. Martin is reported interested in plan to establish shipyards.

Ga., Brunswick—Soda Pulp.—Yaryan Rosin & Turpentine Co. plans to manufacture soda pulp; contemplates \$500,000 mill; A. B. Ayerst, Engr., Brunswick, advises Manufacturers Record: All concrete and steel fireproof construction decided upon for buildings; machinery for daily output 50 tons Kraft pulp; this unit will cost about \$500,000; plans and specifications not quite completed; company has not decided when it will build. (Lately noted having plans prepared by Mr. Ayerst, etc.)

Ga., Savannah—Shipbuilding.—Georgia Shipbuilding Co. organized; paid-in capital \$50,000; privilege of increase to \$1,000,000; M. A. O'Byrne, Prest.; Joseph Hall, V.-P.; J. W. Heffernan, Secy.-Treas.; F. W. Spencer, Asst. Secy. and Treas.; C. G. Wilkinson, Gen. Mgr.; build schooners, sailing ships and steamships; construct drydock. (Noted in Aug. to build plant on Hutchinson Island.)

La., Kaplan—Rice Mill.—Louisiana State Rice Mill Co., Gueydan, La., will build rice mill; has machinery.

La., New Iberia—Brooms.—Eagle Broom Co. will erect 2-story factory.

La., New Orleans—Shipyards.—Doullant & Williams will, it is reported, utilize site with water-frontage of 700 ft. for establishment of shipyards; plans include construction of drydock.

La., Singer—Medicines.—Hobo Medicine Mfg. Co., M. P. Erwin, Prest., and D. W. Bailey, Mgr., will rebuild plant lately noted burned; erect 20x40-ft. mill-construction buildings; construction by R. C. Rumsey; plans by I. C. Carter, Lake Charles, La.; install machinery, cost about \$2000. (See Machinery Wanted—Bottling Machinery, etc.)

Md., Baltimore—Paper Boxes.—L. Gordon & Son, 223 N. Front St., will build plant; 3 stories; 50x100 ft.; plans by Louis Levi, 1408 Munsey Bldg., Baltimore.

Md., Baltimore—Brushes.—Rennous, Kleinfeld & Co., 3221-3229 Frederick Ave., will erect addition to plant; 4-story-and-basement building; 65x61 ft.; brick, slow-burning or mill construction; also add a fourth story to 3-story 61x85-ft. building, this to be of slow-burning construction; install sprinkler system; no additional machinery needed; T. H. Rhinehart, Archt.; Consolidated Engineering Co., Contr., 243-255 Calvert Bldg., Baltimore.

Miss., Laurel—Creamery.—Glen Fleming, Monteleone Hotel, New Orleans, is promoting creamery; will not be ready for bids until early next year.

Miss., West Point—Ice Cream and Creamery.—King Ice Cream & Creamery Co., capital \$10,000, incptd. to establish creamery and ice-cream plant.

Mo., Joplin—Creamery.—C. W. McAllister of Marceline, Mo., will build creamery; weekly capacity 1000 lbs. butter.

Mo., Kansas City—Mill Supplies, etc.—Gustaf-Bacon Mfg. Co. will erect building; reinforced concrete; cost \$35,000; Smith, Rea & Lovitt, Archts., Kansas City.

Mo., St. Louis—Soap, etc.—Hopfinger & Roth Co. leased 4-story and basement building at 106-110 Locust St.; will remodel to manufacture soap, perfumes and toilet articles; install electric elevator.

Mo., St. Louis—Electrical Appliances.—Magnet Mfg. Co., capital \$10,000, incptd. by I. Korach, L. F. Korach, A. L. Jacobs and M. D. Frumberg.

Mo., St. Louis—Cloaks.—Crall Cloak Mfg. Co., capital \$5000, incptd. by Louis and G. Susman and Alex. Crall.

Mo., St. Louis—Fabric-Measuring Machines.—The Measuregraph Co., 2109 Olive St., lately noted as contemplating increasing capacity of plant, manufactures fabric measuring (not cloth cutting) machines; uses regular and special machine shop equipment, high grade and light weight; G. Carleton Hosch, Prest.; W. E. Hosch, V.-P.; Robt. J. Gartside, Secy.; Wm. R. Blair, Mgr.

N. C., Brevard—Tannery.—Transylvania Tanning Co., authorized capital \$250,000, organized by Jos. S. Silverstein (Prest.), Rosman, N. C.; Jos. M. Schain, N. P. Dworatzky, and others; engaged J. M. Kilpatrick of Brevard in charge of construction; plant estimated to cost \$150,000; main building of brick, 650x70 ft. and 2 stories high; 8 other brick buildings of fireproof construction; 150 ft. white brick smokestack; install steam boilers, engine, shafting, pulleys, etc.; tan sole and belting leather. (Supersedes recent incomplete item.)

N. C., Wilmington—Lime.—Sampson Lime Mfg. Co., capital \$50,000, incptd. by E. McN. Carr, L. C. Herring and others.

Okl., Durant—Cotton Cleaner.—Oklahoma Cotton Cleaner Co., capital \$20,000, incptd. by L. E. Lee, J. R. McKinney, W. F. Pendleton and W. E. Utterback.

Okl., Muskogee—Oil Heaters.—Solar Oil Heating Co., capital \$10,000, incptd. by John M. Coe, C. R. Teter and M. G. Young.

S. C., Belton—Spindle-frame Attachment.—Textile Specialty Co., capital \$150,000, incptd. to manufacture attachment for spinning frames; S. H. McGhee, Prest.; C. F. Cox, V.-P.; L. W. Stansell, Secy.; F. M. Cox, Treas. and Mgr.

S. C., Chester—Overalls.—Southern Mfg. Co. increased capital from \$10,000 to \$100,000.

S. C., Spartanburg—Granite Monuments.—Southern Granite Works, I. B. Hill, Prop.-Mgr., states that his enterprise will be wholesale, granite monuments; not connected with Southern Marble & Granite Co. (Lately noted, partially incorrectly.)

Tenn., Jellico—Extracts.—Davis Mfg. Co. increased capital from \$10,000 to \$25,000.

Tenn., Memphis—Ink Ribbons.—Dixie Ink Ribbon Mfg. Co., capital \$5000, incptd. by W. A. McClure, W. D. Browning, J. N. Mans and others.

Tenn., Morristown—Gloves.—Southern Glove Mfg. Co., lately noted (at Morristown) contemplating increase of capital stock to \$10,000, manufacture canvas and leather palm gloves; D. A. Pless, Prest.; J. I. Phillips, V.-P.; E. E. Pless, Secy.; C. V. Taylor, Mgr.

Tenn., Nashville—Biscuits.—Tennessee Biscuit Co. increased capital from \$100,000 to \$150,000.

Tex., Beaumont—Macaroni.—Beaumont Macaroni Mfg. Co., capital \$6000, incptd. by Jas. Farnie, J. S. Maida and Nick Lemonte.

Tex., El Paso—Gasoline Vending Machines.—E. A. Vonderveld and Sam Hunter contemplate establishment of plant to manufacture

gasoline vending machine patented by Mr. Vonderveld.

Tex., McKinney—Bottling.—A. Craus, Prop. McKinney Bottling Works Co., will erect 2-story brick building; purchased machinery.

Va., Lynchburg—Mattresses.—National Mattress Co., W. T. McNamara, Jr., Prest., and Gen. Mgr., now planning to rebuild factory burned in Sept.; ordinary brick-construction building; about 100x70 ft.; estimated cost within \$12,000; install power elevator and sprinkler system; manufacture mattresses, pillows and bolsters; also jobbers of brass beds and iron beds. (Noted in Sept.) (See Machinery Wanted—Sprinkler System.)

Va., Norfolk—Shipbuilding.—F. O. Smith Shipbuilding & Drydock Co., J. R. Seemer, Gen. Mgr., expects to build ship sheds, machine shop, boiler and blacksmith shops, and install machinery to construct and repair wood and iron ships.

Va., Norfolk—Shipyards.—Southern Transportation Co., Commercial Trust Bldg., Philadelphia, and Munsey Bldg., Baltimore, purchased land on eastern branch of Elizabeth River, with 600 ft. frontage on 25-ft. channel; will erect \$200,000 plant for construction and repair of barges, tug boats and other vessels; extensive dredging and bulkhead work; will begin immediately, to add to acreage; made contract for construction of drydocks to accommodate large vessels; plans being made for erection of woodworking, carpenter and machine shops, steam and electric plants, etc.; plans contemplate continuous construction of 2 boats on launching ways at Norfolk without diminishing work in yard at Chesapeake City, Md. (Lately noted buying site and proposing to build plant.)

Va., Roanoke—Apple Products.—Virginia Fruit Product Co., capital \$125,000, incptd. with L. A. Scholz, Prest. and Gen. Mgr., and Henry Scholz, Secy.-Treas.; remodel plant of Virginia Brewing Co. and equip to manufacture vinegar, cider, apple butter, etc.; capacity of 500,000 lbs. cull apples per season; also install improved equipment for ice manufacture and cold-storage.

W. Va., Charleston—Chlorine, etc.—Warner Kilpstein Chemical Co. will build 2 additional structures; 130x40 and 90x40 ft.; 1-story; let contract to Wm. L. Crow Construction Co., New York; install machinery to manufacture chlorine by-products; now manufactures chlorine and by-products from sodium chloride by electrolytic process; now buying salt supply, but plans future development of salt in Kanawha Valley; New York office at 644 Greenwich St.

W. Va., Lewis—Chemicals.—Roessler & Hasselacher Chemical Co., Perth Amboy, N. J., and 100 William St., New York, advises Manufacturers Record: Plant buildings of brick and steel construction; C. W. McNulty Co., Contr., Charleston, W. Va.; N. H. Guth, Construction Engr., St. Albans, W. Va.; install equipment for manufacturing chemicals; machinery already contracted for; have own engineering department; cost, less than \$500,000. (Reported in September as to build plant and in November as having advised Manufacturers Record as to purchase of site on Kanawha River.)

MOTOR CARS, GARAGES, TIRES, ETC.

Ark., Little Rock—Garage.—R. M. Pearson let contract to Geo. W. Fair, Little Rock, to erect 50x140-ft. 1-story garage; cost \$10,000; brick walls; concrete floor; trussed roof, built-up asbestos type; plans by Mann & Stern, Little Rock.

Ga., Rome—Best's Motor Co. will occupy garage to be erected by Horace C. Johnson; building will be 2 stories and basement; fireproof; cost \$4000; site 55x150 ft.

Ga., Ty Ty—Garage.—Lytle & Fletcher will erect garage; 1 story; brick; day labor.

Ky., Louisville—Automobiles.—Ever Ready Auto Service Co., capital \$10,000, incptd. by Henry Strauss, Sam Switow, Julius Strauss and M. Switow.

Ky., Louisville—Garage.—Thomas Garage, capital \$25,000, incptd. by Wm. A. Thomas, Vincent Thomas and Florence J. Gathof.

Ky., Louisville—Garage.—Main Street Garage, capital \$5000, incptd. by J. F. Marx, Wm. Pfaffinger and T. Hicks Martin.

La., Bogalusa—Garage.—E. L. Knight will build garage; brick construction; 70x40 ft.; 2 stories; cost \$10,000.

La., Monroe—Garage.—Weeks Supply Co. will remodel and enlarge building for garage; cost \$10,000.

Md., Baltimore—Garage.—Garrison-Walbrook Garage, Inc., let contract Jos. Schamberger & Son, 2122 E. Baltimore St., Balti-

more, to erect garage on 10th St. near North Ave.; plans by Herbert G. Jory, 1408 Munsey Bldg., Baltimore. (Noted in Sept.)

Md., Cumberland—Automobile Tires.—Kelly-Springfield Tire Co., T. M. Marshall, Gen. Supt., Akron, O., is reported to have finally decided to build automobile-tire manufacturing plant and as having let \$2,500,000 contract to S. Deischer & Sons, Consulting Engrs., Pittsburgh, Pa., to prepare site and construct buildings. (Previously noted planning this factory, etc.)

N. C., Gastonia—Garage.—Gastonia Garage Co. will enlarge plant; increase size from 105 x50 ft. to 205x50 ft.; brick; fireproof; increase capacity from 25 to 50 automobiles.

N. C., Ahoskie—Automobiles.—M. C. Powell Co., capital \$20,000, incptd. by M. C. Powell, Mrs. A. H. Greene and Arthur M. Greene.

S. C., Charleston—Garage, etc.—Army Cycle Mfg. Co., J. H. East, Prest.-Mgr., 130 Meeting St., will install equipment of lathes, etc., for garage in recently-completed building.

S. C., Columbia—Automobiles.—Southern Motor Co., capital \$5000, incptd.; L. S. Covin, Prest.; O. P. Royal, V.-P., Secy. and Treas.

S. C., Columbia—Garage.—Columbia Overland Co. will erect garage; 28x114 ft.

S. C., Gaffney—Garage.—N. H. Littlejohn will erect 40-ft. addition to garage occupied by Cherokee Garage Co.

S. C., Rock Hill—Automobiles.—Anderson Motor Co. chartered with \$1,500,000 capitalization by John G. Anderson (Prest. of Rock Hill Buggy Co.), J. B. Johnson, T. L. Johnston, J. M. Cherry, Alexander Long and J. W. O'Neal, each of Rock Hill, and J. A. Carr of Birmingham, Ala. Mr. Anderson wires Manufacturers Record: Anderson Motor Co. will use plant of Rock Hill Buggy Co.; this plant will be enlarged during coming year, so that annual capacity will be 3000 motor cars; now has annual capacity 2000 cars; present factory is fully equipped; will build 300x30-ft. assembling plant.

Tenn., Chattanooga—Automobiles.—Chattanooga Buggy & Auto Co., capital \$3500, incptd. by R. W. Beise, C. W. Beise, P. F. Hellerstedt and others.

Tenn., Memphis—Automobiles.—Falcon Motor Car Co. incptd. by J. G. Hammett, E. E. Karlson, J. L. Manley and Chas. F. Kessler.

Tex., El Paso—Garage.—R. E. McKee will erect garage; cost \$8000.

Tex., Fort Worth—Garage.—J. M. Vincent will erect garage; 100x35 ft.; 2 or 3 stories; reinforced concrete; cost \$50,000, if 3 stories high.

Tex., Houston—Automobiles.—Leland Automobile Co. incptd. by F. W. Leland, G. A. Fredericks and A. J. Berry.

Tex., Houston—Tires.—Bering Tire & Repair Co., capital \$20,000, incptd. by A. C. Bering, Jr., J. W. House and Hamblen Patterson.

Tex., Lockhart—Automobiles.—Shropshire Auto Co., capital \$5000, incptd. by E. E. Shropshire, W. B. Swearingen and W. T. Patterson.

Tex., San Antonio—Automobiles.—Chandler Motor Co., capital \$10,000, incptd. by A. P. Barrett, J. B. Reynolds and J. W. Greenwell.

Tex., Sulphur Springs—Automobiles.—Hopkins Motor Co., capital \$5000, incptd. by A. L. Alexander, M. C. Parrish and R. S. Bolton.

Va., Lynchburg—Garage.—Piedmont Motor Car Co. organized with W. A. Taylor, Prest.; Nolde M. Jordan, Secy.-Treas.; will build automobile assembling plant; plans concrete building; also building for storage.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Okl., Clinton.—Clinton & Oklahoma Western Ry., W. S. Haid, Gen. Mgr., Clinton, will reconstruct shops burned in Nov.

Va., Shenandoah.—Norfolk & Western Ry., J. E. Crawford, Chief Engr., Roanoke, Va., will rebuild roundhouse, blacksmith shop, tinmith shop, boiler-house, etc., lately noted burned; estimated loss, including 4 locomotives, \$100,000.

ROAD AND STREET WORK

Ala., Birmingham.—Jefferson County Commissioners directed County Engr. to survey road from filter plant on Shades Mountain to pumping station on Cahaba River, preparatory to permanent improvement.

Ala., Montgomery.—City Commrs. will repave North Perry St., from Dexter to Madison Ave., with brick, asphalt, wood blocks or bitulithic.

D. C., Washington.—Comms. Dist. of Columbia will grade streets aggregating 291,000 cu. yds.; bids until Dec. 14. (See Machinery Wanted—Grading.)

Fla., Daytona Beach.—City votes Dec. 14 on \$2500 bonds to pave Seabreeze Ave. and other streets and install surface drains on Seabreeze Ave. Address The Mayor. (See Miscellaneous Construction.)

Fla., Tarpon Springs.—City will vote on \$7500 bonds to improve streets and parkways. Address The Mayor.

Ky., Ashland.—City let contract Hunt-Forbes Construction Co., Gaylord Bldg., at \$40,000 for grading and paving.

Ky., Earlington.—City, W. E. Nash, Mayor, voted \$15,000 bonds for street improvements.

La., Crowley.—Acadia Parish, Road Dist. No. 1, votes Dec. 30 on \$400,000 bonds to construct roads; work contemplated includes construction of hard-surfaced road entirely across county from east to west on line of Old Spanish Trail route, with intersecting and subsidiary hard surfaced roadways throughout district.

La., Lake Charles.—Calcasieu Parish let contract Dedersey & Maff, Lake Charles, at \$16,000 to construct 3200 ft. gravel road, 40 ft. wide.

Miss., Starkville.—Oktibbeha County, Beat 2, voted on bond issue to construct rock roads from Hickory Grove to Starkville, and from Osborn to Starkville. Address County Comms.

Mo., Sikeston.—City votes Dec. 12 on \$10,000 bonds for road construction; election lately noted authorizing bond issue declared illegal. Address The Mayor.

N. C., Burgaw.—Pender County, Columbia and Topsail townships, N. H. Lockhart, official in charge, Rocky Point, N. C., will construct about 50 mi. road; \$30,000 available; open bids in Jan.; engineer not selected.

Okla., Arapaho.—Custer County will vote Jan. 15 on \$800,000 bonds for road construction; proposed to build 109 mi. as part of State Highway and Ozark Trails Systems. Address County Comms.

Okla., Tishomingo.—Johnson County, Thomas Township, defeated \$20,000 bonds to construct roads. (Noted in Oct.)

Okla., Woodward.—Woodward County, Liberty Township, voted on \$20,000 bonds to improve roads. Address County Comms.

S. C., Florence.—City let contract L. Morgan Johnston, Arlington, Va., to construct about 21,000 sq. yds. macadam paving on Church St. (Lately invited bids.)

Tex., Cameron.—Milam County voted \$150,000 bonds to construct roads. Address County Comms.

Tex., Center.—Shelby County, R. H. McCauley, County Clerk, will vote Dec. 11 on \$120,000 bonds for road improvements.

Tex., Clarendon.—Donley County will construct roads; contractors to have representative in Clarendon on Dec. 11 to discuss plans with Court and submit propositions; expend about \$75,000; J. H. O'Neal, County Judge. (See Machinery Wanted—Road Construction.)

Tex., Denton.—City School Board let contract for concrete curbing and gutter to cost \$4500, for 2 new school buildings.

Tex., Denton.—Denton County, Road Dist. No. 5, votes Dec. 21 on \$1,000,000 bonds to construct roads. Fred M. Botoroff, County Judge.

Tex., Eastland.—Eastland County, Road Dist. No. 1, will vote Dec. 30 on \$200,000 bonds for road construction. Address County Commissioners.

Tex., Galveston.—City will improve Sea Wall Blvd., from Broadway to 22d St.; 18,500 sq. yds. 6-in. concrete sidewalk pavement, 13,250 lin. ft. curbing; 4825 cu. yds. 4-in. concrete base for brick roadway, 530 cu. yds. concrete sheet pile coping; 31,000 sq. yds. vitrified brick paving (contractor furnishing brick); 15,000 sq. yds. brick paving (county furnishing second-hand brick); alternate bids in duplicate also received for roadway paving, 43,700 sq. yds. asphalt paving; bidders to furnish their own specifications and state what base they will use; included in this bid to be proposal for 2300 sq. yds. vitrified brick paving (county furnishing second-hand brick); John M. Murch, County Auditor; lately noted. (See Machinery Wanted—Paving.)

Tex., McKinney.—City has formed new Paving Dist.; will let contract to construct 1½ mi. paving. Address The Mayor.

Tex., San Angelo.—City, Geo. J. Bird, Mayor, contemplates issuing \$25,000 bonds for relaying wood block paving.

Va., Franklin.—City will issue \$40,000 bonds to improve streets, etc.; W. O. Bristow, Finance Commr. (See Water-works.)

Va., Hampton.—Elizabeth City County Supvrs. let contract Gannaway-Hudgins Co. at \$3000 to construct Fox Hill road from Buckroe to Bloxom's Corner.

Va., Richmond.—Chas. E. Bolling, City Engr., submitted report to Administrative Board on improvements to Roseneath Rd., from Broad St. to Grove Ave., and estimates cost at \$29,870.89, which includes grading, graveling, curbing, guttering, etc.; understood plan provides for 10-ft. sidewalk on each side of street and 40-ft. roadbed.

Va., Salem.—Roanoke County, Cave Spring Magisterial Dist., votes Jan. 16 on \$125,000 bonds to construct 16.16 mi. of road. Chas. D. Denit, Clerk.

W. Va., Keyser.—Mineral County contract, lately noted let to H. K. Kaylor, Hagerstown, Md., for water-bound macadam construction, etc., New Creek Dist., includes 35,00 cu. yds. construction; total amount of contract \$85,000.

W. Va., Welch.—McDowell County, Sandy River Dist., will grade, surface, drain and build bridges on 35 mi. of road; bids until Dec. 15; work to be let in 3 sections; W. W. Whyte, Clerk; W. J. McClaren, County Road Engr., Welch. (See Machinery Wanted—Road Construction.)

SEWER CONSTRUCTION

Ark., Little Rock.—Sewer Dist. No. 82, T. H. Dalhoff, Chrmn. Comms., let contract A. J. Kress at \$4550 to construct sanitary sewer system in district, comprising 30 blocks in Sunset, Watson and Bowman Additions; Ford & MacCren, Engrs., Little Rock. (Lately noted inviting bids.)

Ark., Walnut Ridge.—City let contract Morengo & Burkham, Syndicate Trust Bldg., St. Louis, at \$89,000, to construct sewer and water systems; Hiram Phillips, Engr., International Life Bldg., St. Louis. (Lately noted.)

Fla., Tarpon Springs.—City will vote on \$15,000 bonds to extend sewer system. Address The Mayor. (Noted in July.)

Ga., Savannah.—Chatham County Comms. let contract Bensley Contracting Co. of Savannah to construct Fell Street sewer.

Mo., Kansas City.—City let contract W. C. Mullins to construct sewer extension in Sewer Dist. No. 348, centering at 33d St. and Elmwood Ave.

Mo., Sikeston.—City votes Dec. 12 on \$5000 bonds for sewer construction; election lately noted authorizing bond issue declared illegal. Address The Mayor.

Okla., Broken Arrow.—City, R. A. Wallingford, Clerk, will construct sewers; estimated cost \$30,000; includes 26,000 ft. 6-in., 12,000 ft. 8-in. and 800 ft. 10-in. sewer tile; 2 disposal tanks; date for construction not yet set; Mackintosh-Walton Co., Oklahoma City, Engr. (Reported in Sept.)

Okla., Crescent.—City contemplates constructing sewer system and water-works. Address The Mayor.

Okla., Kendall.—City will issue \$50,000 sewer bonds. C. W. Johnson, Chrmn. of Board.

Okla., Ponca City.—City voted \$30,000 bonds to construct sewer system and water-works. Address The Mayor.

Okla., Sapulpa.—City, R. E. Jenness, City Clerk, will open bids in January on storm sewer construction lately noted; estimated cost \$11,575; 4-ft. 2-ring brick sewer, length 850 ft.; 3040 ft. 24-in. tile; R. N. Whittlesey, Engr. (See Machinery Wanted—Sewer Construction.)

Tex., Ballinger.—City will expend \$2500 to \$3000 on pump well and filter beds; capacity 40,000 to 50,000 gals. daily; J. A. Kelley, Res. Engr.; H. M. Maire, Engr., Austin, Tex. (See Machinery Wanted—Pump, Lift and Motor.)

Tex., Crockett.—City, J. H. Painter, Mayor, will issue \$40,000 warrants about Dec. 15 for sewerage improvements.

Tex., Gainesville.—City will install sewage-disposal plant, activated sludge; cost \$20,000 to \$30,000; capacity 150,000 to 200,000 gals.; Engrs., H. A. Pressey, 50 Church St., New York, and H. M. Maire, Austin, Tex. (See Machinery Wanted—Blower, etc.)

Tex., Lockhart.—City let contract Murphy Construction Co. of Texarkana, Tex., at \$30,400 to construct sewer system; 11 mi.; Henry E. Elrod, Const. Engr., Dallas; R. A. Beatty, Mayor. (Lately noted inviting bids.)

Tex., Victoria.—City, P. Trevino, Engr., has plans by Dallas Lime & Gravel Co., Dallas, Tex., for sewage-disposal plant; Imhoff

tanks, dosing chambers and sprinkling filters; estimated cost, \$35,000; plans approved by State Sanitary Engr. V. M. Ehlers.

Va., Franklin.—City will issue \$40,000 bonds to extend water system, etc.; W. O. Bristow, Finance Commr. (See Water-works.)

Va., Richmond.—City let contract Burton Marye at \$1465.67 to construct sewer in Fourth St., between Maury and Stockton.

Va., Richmond.—Laburnum Corp. contemplates constructing sewer system in Laburnum Park, estimated to cost \$10,000 to \$12,000.

W. Va., Huntington.—City will construct relief sewer on south side of city, as follows: Section "A"—B, 2832 ft. of 36x30-in. brick; Section "C"—D, beginning from point in alley between 12th and 13th Ave. and on west side of 11th St.; City Comms. receive bids until Dec. 18; A. B. Maupin, City Engr. (See Machinery Wanted—Sewer Construction.)

TELEPHONE SYSTEMS

S. C., Greenville.—Fork Shoals Telephone Co. inceptd.; T. M. Griffin, Prest.-Treas.; B. E. Geer, V.-P. and Secy.

S. C., Ballentine.—Belle Pointe Telephone Co. inceptd. by J. P. Gaines, J. W. Bushy and C. H. Bouknight.

TEXTILE MILLS

Ala., Mobile.—Cotton Twine.—Wm. McDonald, care of Y. M. C. A., may install equipment to manufacture cotton twine. (See Machinery Wanted—Cotton Twine Machinery.)

Ga., Douglas.—Hosiery.—Douglas Hosiery Mills will build 60x20 ft. addition and install 31 knitting machines with accompanying ribbers.

Ga., Lafayette.—Hosiery.—Walker County Hosiery Mills will add 60 knitting machines; has let contract.

N. C., Ellerbe.—Knit Goods.—Ellerbe Knitting Mills Co., capital \$100,000, inceptd. by J. R. Bennett, B. B. Parlow, W. L. Howell, J. R. Wall and D. A. Parson.

N. C., Gastonia.—Cotton Yarn.—R. Grady Rankin will organize \$150,000 company to build 5000-spindle mill for manufacturing fine yarn.

N. C., High Point.—Hosiery.—Slane Hosiery Mills, organized by O. W. Slane of Statesville, N. C., and W. H. Slane (Mgr.) of High Point; let contract for 2-story 130x60-ft. building; ordered 60 knitting machines, 35 H. P. electric chain drive, dyeing equipment, finishing machinery, etc., for daily capacity 500 dozen pairs ladies' hose; cost of mill machinery \$30,000.

N. C., Lexington.—Cotton Cloth.—Erlanger Cotton Mills will, it is rumored, build large addition; writes to Manufacturers Record: No plans have been made for additions.

N. C., Lumberton.—Cotton Products.—Dresden Cotton Mills will enlarge plant and install additional spindles.

N. C., Raeford.—Knit Goods.—B. F. Moore, Box 402, may establish knitting mill. (See Machinery Wanted—Knitting Machinery.)

WATER-WORKS

Ark., Walnut Ridge.—City let contract Morengo & Burkham, Syndicate Trust Bldg., St. Louis, at \$80,000 to construct water and sewer systems; Hiram Phillips, Engr., International Life Bldg., St. Louis. (Lately noted.)

Fla., Plant City.—City will improve water-works; let contract H. O. Hobbs at \$4904.71 to erect building, concrete pit for engine plant.

Fla., Tarpon Springs.—City will vote on \$15,000 bonds to extend water-works. Address The Mayor. (Noted in July.)

La., Houma.—City voted bonds to construct water system, etc. Reubin Chauvin, Mayor.

La., Independence.—City, W. H. Wilson, Mayor, asks bids until Jan. 9 to construct water-works; includes crude-oil engines, pumps, steel tower and tank, reservoir, pumping station, fire hydrants, water pipe, etc.; N. A. Kramer, Const. Engr., Magnolia, Miss. (See Machinery Wanted—Water-works.)

Mo., Brookfield.—City defeated \$63,000 bonds to construct water-works; Jas. W. Lacey, Supt. (Lately noted to vote.)

Md., Jessups.—Maryland House of Correction will construct water supply; pipe water from Dorsey's Run, 400 yds. distant; water to be sterilized; cost \$40,000 to \$45,000; construction under supervision of Albert Morse, Ch. Engr. Bureau of Sanitary Engineering of State Board of Health.

Mo., Richmond.—City, J. L. Farris, Jr., Mayor, contemplates construction of water filter and extension to mains, etc.; will vote in early spring on about \$20,000 bonds.

Okla., Crescent.—City contemplates constructing water-works and sewer system. Address The Mayor.

Okla., Ponca City.—City voted \$30,000 bonds to construct water-works and sewer system. Address The Mayor.

Tex., Fort Worth.—City plans to double capacity of filter plant; present capacity 5,000,000 gals.; cost \$50,000; F. J. von Zuben, City Engr.

Tex., Higgins.—City voted bonds to install water-works and electric-light system. Address The Mayor. (Noted in Nov. and Oct.)

Tex., Palestine.—Palestine Water Co. (General Engineering & Managing Corp., New York) will construct filtration plant.

Va., Farmville.—City will issue \$15,000 water-works bonds and expend this amount on plant of 1,000,000-gal. capacity; install turbine and electrically-operated pumps; Wm. M. Platt, Engr., Durham, N. C.

Va., Franklin.—City will issue \$40,000 bonds for filter plant, water and sewer extensions and improvement of electric-light plant and streets. W. O. Bristow, Finance Commr.

W. Va., Sistersville.—City let lately noted contract for 2,000,000-gal. filter plant to Dayton, Francis & Myers, New Martinsville, W. Va.; cost \$30,000; building 89 ft. 6 in. x 82 ft. 6 in. x 20 ft., of reinforced concrete; plans by Douglas & McKnight, Pittsburgh, Pa.

WOODWORKING PLANTS

Ala., McDowell.—Boxes, etc.—American Box Co., Cleveland, Ohio, will build box and shoop plant to cost \$50,000; later will install plant to manufacture handles and spokes.

Ark., Mena.—Handles and Spokes.—Leven Gasney will build handle and spoke factory.

Ark., Wynne.—Staves.—Portable Stave Co. inceptd. by R. Block, H. A. Block and E. Hamilton.

Fla., Marianna.—Millwork.—Marianna Millwork Co. will rebuild plant, including planing mill and sash and door department, lately noted burned at loss of \$20,000.

Ky., Louisville.—Veneer.—Louisville Veneer Mills organized; D. E. Kline, Prest.-Mgr.; H. E. Kline, V.-P. and Supt.; H. E. Snyder, Secy.-Treas.; will erect 100x100-ft. ordinary construction 2-story building, for storage; also 3 concrete (Morton) drykilns; A. Markham & Co., Louisville, Contr. (Lately noted inceptd., capital \$150,000.)

Miss., Charleston.—Boxes.—Queen City Box Factory will install plant; occupy buildings of Lamb-Fish Lumber Co.; Morris H. Tripp, Gen. Supt.

Miss., Union.—Veneer.—J. R. Buckwalter Lumber Co. will establish veneer plant to utilize hardwood timber.

Mo., Willow Springs.—Staves.—Light, Power & Mfg. Co. will build stave mill.

N. C., Clinton.—Cooperage.—Carolina Cooperage Co., capital \$50,000, inceptd. by John F. Rodman, Howard McKinnon and Harry L. Stewart.

Tenn., Bearden.—Handles.—Colonial Lumber Co. may install equipment to manufacture plow and other turned handles. (See Machinery Wanted—Handle Machinery.)

Tenn., Chattanooga.—Boxes, Crates, etc.—Chattanooga Mfg. Co., Blackford St. and Southern Ry., capital stock \$50,000, organized with L. D. Drewry, Prest.; S. T. Lewis, V.-P. and Gen. Mgr.; J. S. Drewry, Treas.; H. C. Piper, Secy.; purchased plant of Chattanooga Box & Lumber Co., including 6 acres land and about 23,000 sq. ft. floor space; will manufacture hardwood and pine lumber, wooden boxes and crates; now operating planing mill and has ordered wooden-box machinery. (Noted in October under Miscellaneous Factories.)

Tex., Dallas.—Boxes.—Silvers Box Factory increased capital from \$25,000 to \$35,000.

Tex., El Paso.—Sash and Doors.—El Paso Sash & Door Co. will open bids Dec. 10 to construct buildings lately noted to cost \$100,000; 4 structures; sizes 85x190, 160x282, 100x188 and 40x70 ft.; standard heavy mill construction; C. R. Townsend, Archt. and Constr. Engr.

Tex., Waco.—Poultry-houses.—J. P. Hassell, Corsicana, Tex., is interested in proposed factory for patented poultry-houses.

Va., Galax.—Furniture.—Mr. Honaker of Bluefield, W. Va., will rebuild burned furniture factory; E. W. Dodd to continue as Mgr.

FIRE DAMAGE

Ala., Calvert.—Everett & Boykin's turpentine still; loss \$2500 to \$3000.

Ala., Headland.—Robert R. Covington's residence, owned by W. S. Sconyers; O. E. Hynes' residence, occupied by Cain Walls.

Ala., Mobile.—Harry T. Hartwell's residence; loss \$25,000.

Ala., Mobile.—Harry T. Hartwell's residence; loss \$20,000.

Ala., Wetumpka.—Dr. W. M. Gamble's residence; loss \$4500.

Ark., Cedarville.—School building; loss \$500. Address School Trustees.

Ark., Flat Rock.—Woodbine Postoffice and store building owned by Whittitt & White; Joe Evans' residence; loss \$11,000.

Ark., Johnsonville.—Valentine school, 3 mi. west of Johnsonville. Address School Trustees.

Ark., Mulberry.—Dix Ham's residence; loss \$300.

Ark., Paragould.—Joseph Gin Co.'s cotton-storage house.

Ark., Pine Bluff.—Puddephatt Furniture Co.'s warehouse.

Fla., Clearwater.—Sever Bldg., occupied by A. W. Moore and others; loss \$38,000.

Fla., Jacksonville.—Gress Mfg. Co.'s lumber mill; estimated loss \$100,000.

Fla., Tampa.—Tampa Foundry & Machine Co., Ernest Kreber, Prest.; loss \$40,000; John Savarese's building, occupied by B. Mirabella, loss \$5000; Dr. W. C. Richardson's warehouse, occupied by Hillsborough Citrus Sub Exchange, loss \$5000; Tampa Electric Co.'s warehouse, occupied by John B. Seckinger, loss \$12,000; warehouse occupied by R. E. Gibson and A. J. Batterton; W. A. Gallaher's residence, loss \$8000, and other dwellings.

Fla., Wilmarth.—L. B. Sutton Lumber Co.'s sawmill; loss \$15,000.

Ga., Cave Spring.—Hearn Academy; loss \$600 to \$7000.

Ga., College Park.—Atlanta & West Point R. R.'s passenger and freight station; C. A. Wickersham, Prest.-Gen. Mgr., Atlanta, Ga.

Ky., Hickman.—Christian Church; loss \$10,000. Address The Pastor.

Ky., Madisonville.—Horace Cox's residence.

Ky., Pineville.—Rice Lumber Co.'s warehouse, office and lumber sheds; loss \$15,000.

Ky., Stamping Ground.—Buffalo Springs Distilling Co.'s warehouse and number business buildings; loss \$100,000.

Ky., Whitesburg.—John W. Stone's residence; loss \$5000.

La., Dubach.—W. A. Colvin's 2 buildings; G. W. Hamilton's warehouse.

Md., Lystra.—Residence at Lystra Station, owned by G. Mason Janney, Stevenson, Md.; loss \$10,000.

Md., Lonaconing.—Lonaconing Glass Co.'s plant; estimated loss \$70,000.

Md., Salisbury.—Gallinger Bakery; Creekmore's Cleaning Establishment; Shore Barber Supply Co.'s building; loss \$5000.

Miss., Meridian.—Arky Buildings, at Twenty-second Ave. and 5th St.; loss \$50,000 to \$60,000.

Miss., Binford.—T. A. Bradley's store; loss \$3000.

Mo., Kennett.—Mrs. Lulu Ledbetter's residence, owned by Mrs. Lentz, loss \$5000; Baptist Church, loss \$9000. Address The Pastor.

Mo., Kirkwood.—Residence owned by R. T. Deacon, Prest. Lambert-Deacon-Hull Printing Co.; loss \$4000.

Mo., Neosho.—McElhanet-Tatem Dry Goods Co.'s store; loss \$7000; moving-picture theater owned by G. D. Hall; loss \$12,000.

N. C., Gastonia.—Gastonia Ice Plant, Frost Torrence, owner; loss \$20,000 to \$25,000.

N. C., Greensboro.—Edwin Fogleman's residence; loss \$3000.

N. C., Greensboro.—South Atlantic Lumber Co.'s plant; loss \$100,000.

Okla., Frederick.—Polular Theater; loss \$4000.

Okla., Bristow.—J. O. Irvin's barn.

Okla., Madill.—Marsh Milling & Grain Co.'s elevator building, engine-house and machinery; plant operated by Bobbitt Milling Co.; loss \$10,000.

S. C., Cayce.—N. C. McDuffie Lumber Co.'s plant.

S. C., Columbia.—Columbia Compress Co.'s plant; loss \$200,000.

S. C., Florence.—Ryan McCown's residence.

Tenn., Red Sulphur Springs.—Red Sulphur Springs Hotel, operated by W. C. Holland; loss \$20,000.

Tenn., Rogersville.—Dr. A. L. Burem's residence; loss \$10,000.

Tenn., Troy.—D. K. Smith's store; Troy Press Printing plant; both buildings were owned by Jas. M. Brice, editor of News-Banner, Union City, Tenn.; loss of both buildings about \$3000.

Tex., Austin.—Nalley Grocery Co.'s building; loss on building about \$15,000.

Tex., Beeville.—Fortuna Broom Factory warehouse and office building; reported loss \$10,000.

Tex., Fort Worth.—Main arcade and other buildings at Lake Como owned by Lake Como Improvement Co.; loss \$6000.

Tex., Gainesville.—Residence owned by Bert Woodbridge, Claude, Tex.; loss \$6000.

Tex., Gainesville.—Gilbert Hotel, owned by Silas Darnell; loss \$20,000.

Tex., McCauley.—Masonic Hall and 4 business buildings.

Tex., Paris.—Mrs. W. S. Moore's residence; loss \$6500.

Tex., Thorndale.—Urban & Walser's carpenter shop and planing mill; estimated loss \$30,000.

Tex., Waco.—R. T. Dennis' residence; loss \$10,000.

Va., Chase City.—Mecklenburg Springs Hotel, owned by E. Hughes, Danville, Va.; loss \$15,000.

Va., Norfolk.—Freemason Baptist Church; loss \$5000; Rev. Mr. Melton, Pastor.

W. Va., McKendree.—Steinbeck & Gates' sawmill.

Va., Gate City.—Louis M. Francisco's residence 12 mi. from Gate City; loss \$5000.

W. Va., Oakvale.—Goodwyn Store, occupied by J. G. Matney.

W. Va., Welch.—Modern Dry Cleaning Works; loss on equipment \$8000 to \$10,000.

WRECKED BY EXPLOSION

S. C., Orangeburg.—Orangeburg Steam Laundry, owned by J. H. Chisolm; loss \$1200.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Ga., Atlanta.—Mrs. B. H. Barr will erect 2-story brick apartment-house.

Ga., Atlanta.—G. F. Willis will erect apartment-house on Ponce de Leon Ave.; H. N. Nicholes & Son, Archts., Atlanta.

Md., Baltimore.—Druid Realty Corp. is having plans prepared by Stanislaus Russell, 2900 Clifton Ave., Baltimore, for 2 apartment-houses on Lake Drive at Druid Hill Park; 131.10x75.6 ft. each; 3 stories; 18 suites; cost about \$75,000.

Mo., Kansas City.—Eaton & King Construction Co. will erect 3-story 6-apartment brick flat; cost \$10,000.

Mo., Kansas City.—Frank Huber will erect 3-story 6-apartment brick flat; cost \$14,000.

Okla., Norman.—R. J. Hayden will erect 24-room apartment building.

Tex., Dallas.—Mrs. Ida Clark will erect frame apartment-house; 4 suites.

Tex., Dallas.—J. A. Traylor, 814 Southwestern Life Bldg., will erect apartment-house at 3020 S. Boulevard St.; 10 rooms; duplex; frame; cost about \$4500; day labor.

Tex., Dallas.—Mrs. Nora N. Tension has plans by C. P. Sites, 710 Southwestern Life Bldg., Dallas, for 3-story 6-apartment-house; brick and hollow tile; hardwood floors; tiled baths; electric fixtures; cost \$30,000.

Tex., Dallas.—L. O. Smith, Los Angeles, Cal., will erect apartment-house.

Va., Port Norfolk (P. O. Portsmouth).—L. M. Bain will erect apartment-house on Broad St.

ASSOCIATION AND FRATERNAL

Fla., Lakeland.—B. P. O. E. is having plans prepared by Bonfoey & Elliott, Tampa, for building; 3 stories and basement; colonial style; brick walls; wood cornices and columns; cost \$35,000; plans completed Dec. 15. (Lately noted.)

Ky., Baker.—Elk Horn By-Product Coal Co. will erect Y. M. C. A. building. (See Dwellings.)

Miss., Clarksdale.—Shuffordville Lodge No. 286, A. F. and A. M., contemplates erecting 2 or 3-story building; site 60x83 ft.

N. C., Badin.—Tallasee Power Co. will erect theater and lodge building. (See Theaters.)

Tex., Beaumont.—W. O. W. will erect 25,000 building.

Tex., El Paso.—Scottish Rite Benevolent Assn. is having plans prepared by Hubbell & Greene, Dallas, for lodge building; fireproof; gravel roof; reinforced concrete floors; steam heat; electric lights; cost \$178,000. Address W. H. McCullough, El Paso. (Lately noted.)

BANK AND OFFICE

Fla., Palatka.—Southern Utilities Co., Jacksonville, will erect building; 3 stories; 48x70 ft.; buff pressed brick; granite or marble trim; first floor to be occupied by Palatka Ice Co. and Palatka Light & Fuel Co.; second and third, general offices of owner; estimated cost \$60,000.

Fla., Tavares.—St. Claire Abrams will remodel building for stores and offices. (See Stores.)

La., Nona.—Nona Mills Lumber Co. will erect 2-story brick office and store building; remodel old structure for warehouse.

La., Shreveport.—Merchants Building Co. will erect bank and office building; 40x150 ft.; reinforced concrete; 12 stories; probably open bids in 5 weeks; other details not definitely decided; Sanguinet & Staats, Fort Worth, Tex., and E. F. Nield, Shreveport, Associate Archts. (Lately noted.)

Miss., Richton.—W. M. Chambliss will erect store and office building. (See Stores.)

Miss., Richton.—W. M. Chambliss will erect 2-story store and office building. (See Stores.)

Mo., St. Louis.—Pelligreen Construction Co. will erect building to contain offices. (See Stores.)

N. C., Monroe.—Houston-Heath Realty Co. will erect building to contain offices, etc. (See Hotels.)

N. C., Winston-Salem.—R. J. Reynolds Tobacco Co. will erect brick office building at storage No. 28; day labor.

Okla., Ardmore.—B. A. Simpson will erect business and office building. (See Stores.)

Okla., New Wilson.—New Wilson State Bank will erect building.

Okla., Tulsa.—Ratcliff-Sanders Co. plans to erect business and office building; 5 stories; brick.

Tenn., Memphis.—Lee estate will erect store and office building. (See Stores.)

Tex., Nixon.—Nixon State Bank will erect bank, store and office building; 60x75 ft.; brick and tile; fireproof; gravel or composition roof; tile and concrete floors; electric lights; cost \$30,000; bids opened about Dec. 15 and construction begun about Jan. 1; figuring with L. Harrington & Co. and H. A. Reuter, Archts., San Antonio, for plans. (Lately noted.)

CHURCHES

Fla., Limestone.—Limestone Baptist Church has plans by Bonfoey & Elliott, Tampa, for building; colonial style; cost \$8000.

Ga., Atlanta.—North Avenue Presbyterian Church, Rev. Richard Orme Flinn, pastor, has tentative plans to enlarge building.

Ga., Rochelle.—Methodist Church, Rev. J. M. Foster, pastor, is having plans prepared by Chas. W. Carlton, Lagrange, Ga., for building; brick; cast stone; asphalt shingle roof; dome; stained-glass windows; auditorium and 13 Sunday-school classrooms; auditorium to seat 625; cost \$10,000.

Ga., Talbotton.—Baptist Church contemplates erecting brick building. Address The Pastor.

Ga., Valdosta.—Methodist Church is having plans prepared by T. F. Lockwood, Murrah Bldg., Columbus, Ga., for Sunday-school addition and remodeling church building; former 2 stories; 20 rooms and auditorium; brick; stone trim; slate roof; install new furnace system for entire plant; cost \$17,000 to \$18,000.

Ga., Valdosta.—Valdosta Baptist Tabernacle has plans by Lloyd Greer, Valdosta, to remodel opera-house for church and tabernacle; stucco; shingle roof; steam heat; city lighting; cost \$5000. Address C. C. Giddens, Chrmn. Building Com., Valdosta. (Lately noted.)

N. C., Nashville.—Methodist Church is having plans prepared by John C. Stout, Rocky Mount, N. C., for building; cost \$20,000 to \$25,000. (Lately noted.)

Okla., Bartlesville.—First Presbyterian Church is having plans prepared by Hawk & Parr, Oklahoma City, for 2-story-and-basement addition to building.

Okla., Bristow.—Building Com., R. M. House, Secy., will soon let contract to erect brick church building; cost about \$10,000.

Okla., Claremore.—Christian Church plans to erect addition to building. Address The Pastor.

Okla., Oklahoma City.—United Presbyterian Church, Rev. E. B. Ringland, pastor, will erect building; 2 stories and basement; brick veneer; cost about \$10,000; Hawk & Parr, Archts., Oklahoma City. (Lately noted.)

Okla., Stillwater.—Christian Church will erect \$35,000 building. Address The Pastor.

Okla., Tipton.—Methodist Church will erect brick building. Address The Pastor.

S. C., Greenville.—A. R. Presbyterian Church, Rev. W. A. McAulay, Pastor, is having plans prepared for building; D. W. Morroh, Chrmn. Building Com. (Previously noted.)

Tenn., Cleveland.—First Baptist Church has plans by A. B. Baumann, Knoxville, for building. Address The Pastor.

Tenn., Covington.—First Presbyterian Church, Rev. R. P. Walker, pastor, contemplates erecting \$20,000 building.

Tex., Forney.—Baptist Church will erect building. Address The Pastor.

Tex., Marlin.—Jewish congregation organized; I. J. Nathan, Prest.; F. Longfield, Secy.; Mrs. Esther Levy, Treas.; will erect temple.

W. Va., Franklin.—Presbyterian Church, Rev. C. R. Lucy, Pastor, will erect lately noted church and Sunday-school building; seating capacity of former 250 to 300; latter, 300 and separate classrooms; brick and stone; stone trimmings; slate or metal shingle roof; hardwood floors; wood furnace; town electric lights; cement sidewalks; cost \$12,000 to \$14,000; construction begins in spring. Address Chrmn. Building Com., Presbyterian Church. (See Machinery Wanted—Heating Plant; Lighting Fixtures; Brick and Stone; Roofing.)

CITY AND COUNTY

Fla., West Palm Beach—Jail.—City will soon call for bids to erect jail. Address The Mayor.

Md., Baltimore.—Mansion.—Board of Awards, John Hubert, Acting Prest., will restore and renovate old Carroll Mansion at Lombard and Front Sts.; bids opened Dec. 6; J. J. Byrne, Inspector of Buildings. (Previously noted.)

Md., Bayview — Almshouse.—Board of Awards, John Hubert, Acting Prest., City Hall, Baltimore, receives bids until Dec. 6 at office Richard Gwinn, City Register, City Hall, Baltimore, to remodel officers' toilet, main building of Bayview Hospital; plans and specifications at office J. J. Byrne, Inspector of Buildings, Baltimore.

Okla., Ponca City—Hall.—City voted \$25,000 bonds to erect and equip municipal hall. Address The Mayor.

Okla., Sapulpa.—Library.—City Library Directors receive bids through H. H. Harrison, Chrmn. Building Com., 117 Garst Bldg., Sapulpa, to erect library; about 75x70 ft.; brick and Bedford limestone; flat composition roof; first floor cement covered with cork; maple basement floor; cost not to exceed \$25,000, including architect's fee of 5 per cent.; plans and specifications at office Mr. Harrison as above.

Okla., Tulsa—Fire Station.—City has plans by Rush, Endicott & Rush, Tulsa, for fire station No. 5 at 18th St. and Boston Ave.; cottage bungalow style; cost \$5000; will readvertise for bids. Address Frank Newkirk, City Auditor. (Lately noted.)

Tex., Brownwood—Fire Station, etc.—City is having plans prepared for central fire station and city hall; cost \$25,000. Address The Mayor.

Tex., Dallas—Fire Station.—City is having plans prepared by J. O. Gill, Dallas, for Oak Cliff Fire Station. (Lately noted.)

Tex., Munday.—City Hall.—City voted \$15,000 bonds to erect city hall. Address The Mayor.

COURTHOUSES

Okla., Oklahoma City.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opens bids Dec. 27 for extensions, remodeling, etc., postoffice and courthouse. (See Government and State.)

Tex., Refugio.—Refugio County voted \$75,000 bonds to erect courthouse; 2 stories; brick and concrete; fireproof; pitch and gravel roof; pine and tile floors; Atlee B. Ayres, Archt., San Antonio. (Lately noted.)

DWELLINGS

Ala., Bayview.—Tennessee Coal, Iron & R. R. Co., Birmingham, will erect number dwellings for operatives.

Ala., Evergreen.—R. R. Long has plans by Lella Ross Wilburn, 305 Peters Bldg., Atlanta, for 1-story frame bungalow; stone foundation; furnace heat; hardwood floors.

Ark., Little Rock.—C. M. Sandlin will erect 4 residences; cost \$7600.

Ark., Morrilton.—E. J. Wilson contemplates erecting residence.

D. C., Washington.—J. S. Gruver, Prest. Thrift Bldg. Co., 709 Union Trust Bldg., has plans by Geo. T. Santmyers, 821½ New York Ave. N. W., Washington, for five 2-story brick dwellings, 4525-4533 Iowa Ave. N. W.; also to remodel 2-story brick dwelling at 4535 Iowa Ave. N. W.; cost \$6000.

D. C., Washington.—H. L. Thornton, 301 Southern Bldg., will erect 2 frame dwellings; cost \$6000.

D. C., Washington.—Geo. Oakley Totten, Jr., 808 17th St., Washington, D. C., is preparing plans to remodel residence on 16th St.; provide 2-story studio, beamed and paneled in walnut, Gothic style; lattice-effect sun parlor with marble floor, etc.; also designing Italian theater garden.

D. C., Washington.—Max Scher, 1237 29th St. N. W., will erect 2-story brick residence; cost \$3450.

D. C., Washington.—Boss & Phelps have plans by Landvoigt & Cook, 714 14th St. N. W., Washington, for two 2-story residences; 22x38 ft.; frame and brick; tin and slate roof; wood floors; Ideal heating plant; cost \$9500.

D. C., Washington.—T. E. Abbott will erect store and dwelling. (See Stores.)

D. C., Washington.—John R. Haislip will erect three 2-story frame dwellings; cost \$7100.

D. C., Washington.—Edgar Gilchrist, 704 A St. N. E., will erect residence; 2 stories; brick; cost \$3500.

Fla., Jacksonville.—H. F. McAden will erect 2-story frame \$4000 residence.

Fla., Jacksonville.—George Edgerton, Jr., will erect residence at Colonial Drive and Hillcrest Ave.

Fla., Jacksonville.—L. M. Boykin will erect 2-story brick-veneer residence; cost \$17,000.

Fla., Lake Worth.—J. F. Shepherd will erect bungalow.

Fla., Lake Worth.—Mrs. Gertie R. Clark will erect frame residence.

Fla., St. Augustine.—Buel Pinkham will erect cottage on Grove Ave.

Fla., West Palm Beach.—J. B. Encell will erect residence; 16x180 ft.; cement block; asbestos and composition roof; cost \$3000.

Ga., Albany.—J. P. Champion will erect residence; rough texture brick; red tile roof; cost \$5000; construction under supervision of J. A. Rowland.

Ga., Atlanta.—Dr. Thos. A. Day will erect one-story frame residence; cost \$3000; day labor.

Ga., Atlanta.—Exposition Cotton Mills will erect 29 dwellings; 4 and 5 rooms; wood framed; metal shingle roof; cost \$18,000; day labor.

Ga., Atlanta.—P. B. Byrd will erect 1-story brick-veneer residence; cost \$5000; day labor.

Ga., Atlanta.—J. F. Settle is having plans prepared by John C. Battle, 603 Grant Bldg., Atlanta, for bungalow; 1 story; brick veneer; asphalt or slate shingle roof; electric lights; furnace heat.

Ga., Atlanta.—Mrs. Nora G. Webb will erect 1-story brick-veneer dwelling; day labor; cost \$4600.

Ga., Atlanta.—Dr. F. Phinizy Calhoun will erect residence at Andrews Drive and Cherokee Rd.; 80x100 ft.; 2 stories, basement and attic; brick and brick-veneer exterior; frame partitions; slate roof; frame floors; Brommell vapor system heat; electric light, public service line; cost \$35,000; bids opened Dec. 6. Address Edw. Dougherty, Archt.; Thos. W. Gardner, Associate Archt.; both of Atlanta.

Ga., Bainbridge.—J. H. McFarland has plans by Lella Ross Wilburn, 305 Peters Bldg., Atlanta, for frame bungalow; 1½ stories; stone foundation; hardwood floors; electric lights.

Ga., Carrollton.—J. M. Carlisle has plans by Lella Ross Wilburn, 305 Peters Bldg., Atlanta, for frame bungalow; 1½ stories; hardwood floors; electric lights; cost about \$3000.

Ga., Columbus.—Jordan Company, John A. Betjeman, Treas., will develop mill village for Meritas Mills; erect 35 dwellings, to be completed by Feb. 15; construct driveways, parkways, etc.; initial expenditure \$30,000 to \$40,000.

Ga., Jonesboro.—John B. Hutchison has plans by Lella Ross Wilburn, 305 Peters Bldg., Atlanta, for 1-story frame bungalow; stone foundation; hardwood floors; electric lights.

Ky., Baker.—Elk Horn By-Product Coal Co. will let contract in 2 weeks to erect 30 additional miners' houses at Gorman; also build Y. M. C. A. and Welfare buildings.

Ky., Louisville.—Consolidated Realty Co. will erect brick-veneer dwelling; cost \$3000.

Ky., Pikeville.—F. P. Connolly will erect \$5000 brick residence on College St.; will let contract Dec. 12.

Ky., Seco.—Southeast Coal Co. will erect 40 additional miners' houses at Seco and 50 at La Viers; contract let in 10 days.

La., New Orleans.—C. E. Grevenberg will erect bungalow square on Sycamore St.

La., New Orleans.—Interstate Land Co. will erect residence on State St. Drive; also one on State St. Court.

La., New Orleans.—W. H. Hendren will erect residence at Webster and Garfield Sts.

Md., Baltimore.—Welsh Construction Co., 11-13 E. Fayette St., will erect eighteen 2-story brick dwellings on west side of Moreland Ave.; 14x44 ft.; cost \$25,000.

Md., Baltimore.—James B. Yeatman, 4742 Park Heights Ave., will erect sixteen 2-story dwellings at 1001-1031 N. Bentalou St.; 19.5x32 ft.; cost \$30,000.

Md., Baltimore.—Herman Scherr has plans by Callis & Callis, 2055 Kennedy Ave., Baltimore, for ten 2-story brick dwellings in 2900 block Riggs Ave.; 14x44 ft.; cost \$14,400.

Md., Baltimore.—Randolph Forrester, 2019 W. North Ave., will erect number of 2-story dwellings at Dukeland & Windsor Aves.

Md., Roland Park.—P. S. Morgan of Turnbull & Morgan, has plans by Stanislaus Russell, 2900 Clifton Ave., Baltimore, for five 2½-story dwellings on Roland Ave., near University Parkway; colonial style; brick and slate; cost \$20,000; construction under supervision of Roland Park Co., 404-414 Roland Ave., Roland Park.

Md., Harford County.—J. Albert Hughes, 1527-39 Munsey Bldg., Baltimore, is having plans prepared for residence on Otter Creek.

Mo., Kansas City.—Morrow Investment Co. will erect four 1-story frame dwellings; cost \$7600.

Mo., Kansas City.—J. C. Nichols Investment Co. will erect 2-story stucco-veneer dwelling; cost \$15,000.

Mo., Kansas City.—J. C. Nichols will erect two 2-story brick-veneer dwellings at 829 W. 55th St. and 1037 W. 59th St.; cost \$22,500.

Mo., Kansas City.—H. M. Beers will erect two 2-story stucco-and-stone-veneer residences; cost \$14,000.

Mo., Kansas City.—F. W. Metcalf will erect 2 residences; 2 stories; stucco-veneer; cost \$5000.

Mo., Kansas City.—E. C. Kohlsaat, Prest. Kansas City Title & Trust Co., contemplates erecting residence in Mission Hills in spring; Italian villa type.

Mo., Kennett.—A. E. Lansdell will erect residence.

N. C., Ayden.—Robert Worthington has plans by Lella Ross Wilburn, 305 Peters Bldg., Atlanta, for residence; 1 story; frame; stone foundation; hardwood floors.

N. C., Ayden.—R. L. Turnage will erect bungalow; 1½ stories; frame; press-brick foundation; shingle roof; hardwood floors; electric lights; cost \$3500; Lella Ross Wilburn, Archt., Atlanta.

N. C., Durham.—Golden Belt Mfg. Co. will erect additional cottages for operatives.

N. C., Greensboro.—Ed. Holden will erect residence near Greensboro.

N. C., Greensboro.—David White will erect \$3000 residence; 2 stories; 8 rooms.

N. C., Greensboro.—J. R. Truitt will erect 2-story 7-room residence; cost \$3000.

N. C., Greensboro.—R. G. Stockton will erect residence; 2 stories; 6 rooms; cost \$3000.

N. C., Greensboro.—W. H. Matthews will erect three 1-story 5-room residences; cost \$3000.

N. C., LaGrange.—R. C. Field will erect bungalow; 1 story; frame; stone foundation; composition shingle roof; hardwood floors; electric lights; Lella Ross Wilburn, Archt., 305 Peters Bldg., Atlanta.

N. C., Raleigh.—C. H. Andrews will erect residence; cost \$22,000.

N. C., Raleigh.—W. W. Vass will erect \$4700 residence.

N. C., Winston-Salem.—J. G. Bowen will erect residence; cost \$4500.

Okla., Oklahoma City.—F. H. Ray will erect \$3250 frame residence.

Okla., Oklahoma City.—Gardner & Boedecker will erect 2 frame dwellings; cost \$6000.

S. C., Greenville.—J. Furman Norris, Catchee, S. C., has plans by H. Olin Jones, Greenville, for residence on James St.; contract let about Jan. 1.

S. C., Spartanburg.—H. B. Chapman plans to erect residence on Spring St.

Tenn., Knoxville.—John H. Frantz will erect residence; cost \$6200.

Tenn., Nashville.—C. O. Summitt will erect brick bungalow; cost \$3500.

Tenn., Nashville.—Mrs. Lillie B. Kirtland will erect 2 brick-veneer dwellings; cost \$10,000.

Tex., Alpine.—Otho S. Houston of Los Angeles, Cal., purchased 125,000-acre ranch near Alpine and is reported to erect residence.

Tex., Dallas.—F. McM. Sawyer will erect residence; 2 stories; 10 rooms; fireproof; cost \$20,000; owner will purchase materials.

Tex., Dallas.—E. B. Williams, 629 N. Madison St., is erecting residence in Beverly Hills Addition.

Tex., Dallas.—John M. Colquitt, 603 Juanita Bldg., will erect residence; 10 rooms; frame; electric light; cost \$5000.

Tex., El Paso.—Walter Spittler & Sons will erect 3 dwellings in Wague Addition; brick; cost \$9000.

Tex., El Paso.—A. E. Rowland will erect residence; 6 rooms; brick; shingle roof; hardwood floors; hot-air heat; cost \$5500; bids opened and construction begun in Jan.

Tex., El Paso.—Seth Orndorff is having plans prepared by Trost & Trost, Mills Bldg., El Paso, for \$7000 residence; 2 stories.

Tex., El Paso.—Ramey Bros. will erect brick tenement in Campbell's Addition; cost \$3000.

Tex., Fort Worth.—Rhodes-Dines Bldg. Co., 206 Dan Waggoner Bldg., will erect several brick cottages.

Tex., Port O'Connor.—Texas State Epworth League will erect 25 cottages, etc. (See Miscellaneous.)

Tex., Galveston.—M. C. Bowden has plans by C. D. Hill & Co., 801 Sumpter Bldg., Dallas, for residence; 2 stories; 16 rooms; brick; mill construction; tile roof; hardwood floors; electric lights.

Tex., Paris.—O. E. McBeth acquired site and will erect residence.

Tex., Paris.—H. D. Collier is reported to erect brick-veneer residence; cost \$6000.

Tex., Post.—A. A. MacWhinnie has plans by R. E. Gilmore, Post, for \$3000 residence; 6 rooms and basement; frame; brick foundation; yellow pine floors; brick mantels; electric fixtures.

Tex., Spur.—W. H. Putnam has plans by W. B. Ferguson, Box 102, Spur, for residence; 36x57 ft.; interlocking tile walls; stucco finish; tin and vitrified Spanish tile roof; quarter-sawn oak and edge-grain yellow-pine finish floors; cost \$8000; bids opened Dec. 15. Address architect.

Tex., Spur.—Ed. Lisenby, Dickens, Tex., is having plans prepared by W. B. Ferguson, Box 102, Spur, for brick or stucco residence; cost about \$8000.

Tex., Spur.—C. Hogan has plans by W. B. Ferguson, Box 102, Spur, for bungalow; cost \$3000; owner will buy materials.

Tex., Temple.—Harper Stephens has plans by C. D. Hill & Co., 801 Sumpter Bldg., Dallas, for hollow tile and stucco residence; tile roof; hardwood floors; gas and electric fixtures; cost \$10,000.

Va., Pinners Point (P. O. Portsmouth).—Chas. F. Harper is reported to erect 10 tenements.

Va., Richmond.—O. J. Davis will erect 2-story brick residence; cost \$4500.

Va., Richmond.—R. P. Anderson will erect 2-story frame dwelling on Third Ave., Highland Park; cost \$3000.

Va., Richmond.—Realty Finance Corp. of Virginia will erect 2-story frame stucco dwelling on Barton Ave.; cost \$3500.

Va., Richmond.—Land Company of Virginia will erect residence; 2 stories; frame stucco; cost \$3500.

Va., Richmond.—Daisy B. Berkley will erect 2-story frame and stucco residence; cost \$3000.

Va., Richmond.—C. E. Sprengle will erect eleven 2-story frame dwellings on 20th St., between Springhill and Stonewall Sts.; Washington Ter. and 19th St., between Semmes Ave. and Springhill St.; cost \$22,000.

Va., Richmond.—Geo. R. Mayo & Bro. will erect six 2-story brick dwellings at Chaffin and Addison Sts.; cost \$11,000.

Va., Richmond.—G. K. Smith will erect 2-story brick dwelling; cost \$4500.

W. Va., Charleston.—Dr. John J. Henderson has plans by Lella Ross Wilburn, 305 Peters Bldg., Atlanta, for bungalow; 1½ stories; frame; stone foundation; furnace heat; hardwood floors; electric lights; shingle roof; cost \$6000.

GOVERNMENT AND STATE

Ark., Eureka Springs.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., receives bids until Dec. 11 to erect postoffice building; 42x55 ft.; brick; stone trim; block-tin roof; reinforced concrete and terrazzo floors; hot-water heat; electric lights; cost \$50,000; plans and specifications at office Mr. Wetmore as above and from custodian of site, Eureka Springs. (Lately noted.)

Ark., Flat Rock.—Postoffice.—E. S. Shannon, postmaster, is arranging for erection of subpostoffice to replace structure noted damaged by fire.

Md., Baltimore.—Immigration Station.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., receives bids until Dec. 27 for fence, walls, shelter, etc., at Immigration Station; drawings at office Superintendent of Construction, Baltimore, and from Mr. Wetmore as above.

Md., Cambridge.—Armory.—State Armory Commission receives bids until Dec. 20 at office Emerson C. Harrington, Governor, Union Trust Bldg., Baltimore, to erect 3 armory buildings; one at Cambridge, Md., Hyattsville, Md., and Westminster, Md.; bids for each separate building and for buildings as a whole; plans and specifications at office J. Ben Brown, Archt., Cambridge.

Md., Hyattsville.—See Md., Cambridge.

Md., Westminster.—See Md., Cambridge.

Okla., Oklahoma City.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., opens bids Dec. 27, for extension, remodeling, etc. of postoffice and courthouse; drawings and specifications at office Mr. Wetmore and from custodian at Oklahoma City.

Tex., Galveston.—Coast Guard Station.—Treasury Dept., Jas. A. Wetmore, Acting Supvr. Archt., Washington, D. C., opened bids to erect Coast Guard Station No. 25 (San Luis); John Egert, Galveston, is lowest bidder at \$18,255. (Previously noted.)

HOSPITALS, SANITARIUMS, ETC.

Miss., Magee.—State Board of Health, Jackson, Miss., is having plans prepared by Ben Price, Empire Bldg., Birmingham, Ala., for Mississippi State Tuberculosis Hospital; bids opened Dec. 23; site of 200 acres and ultimate plans call for brick administration and infirmary buildings; 19 frame lean-tos, frame service building, frame residence for Dr. W. H. Rowan, Supt.; power plant, barns, dairy, servants' quarters and out-houses; water from deep wells; lean-tos, service building and superintendent's residence only to be erected at present. (Lately noted.)

N. C., Spencer.—Southern Ry. Co., B. Herman, Ch. Engr., Washington, D. C., will erect livestock hospital shed for Great Britain; 46x100 ft.; also 4 sun parlors, 75x200 ft.; to accommodate 500 animals; construction by company's force.

Okla., Muskogee.—County Commrs. plan to erect detention hospital.

Tenn., Rockwood.—Dr. J. Charles Wilson is promoting organization of company to

erect hospital; 3 stories; brick; 15 to 18 wards; is receiving bids.

Tex., Lubbock.—Drs. Pontoon and Post will erect 3-story brick sanitarium; cost \$50,000; equipment \$25,000.

Tex., Snyder.—Scurry County votes Dec. 30 on \$25,000 bonds to erect and equip hospital. Address County Comrs.

Tex., Wichita Falls.—Wichita Falls General Hospital is having plans prepared by Stanley Field, Wichita Falls, for addition; Drs. C. R. Hartsook, J. E. Daniel, and other members of board.

Va., Richmond.—City has plans by Carneal & Johnston, Richmond, for addition to hospital for baby ward; brick; tin roof; wood floors; addition to present heating system; electric lights; bids opened Dec. 10. (Lately noted.)

HOTELS

Ala., Gadsden.—Printup Hotel is having plans prepared by D. O. Whildin, Birmingham, for improvements to hotel; will provide 31 additional rooms, lobby of ornamental tile, marble, brass and mahogany, marble stairways, etc.

Ark., Warren.—W. P. Coker will erect brick hotel.

Ga., Atlanta.—B. Feld has plans by A. F. X. Everett, Atlanta, for hotel addition; brick; tar and gravel roof; wood floors; 3 rooms; cost \$10,000; steam heat, about \$300; construction by day labor, under supervision of archt.

Md., Ocean City.—Isle of Wright Land Co., incptd. with \$300,000 capital, will erect \$100,000 hotel; construct road, trolley line, etc., in connection with development of seaside resort.

N. C., Monroe.—Houston-Heath Realty Co. will erect building at Main and Franklin Sts.; 4 stories; main portion for hotel; First National Bank will occupy one of lower floors; store rooms also on lower floor; cost \$100,000.

Okl., Drumright.—Strand Theater will let contract to Geo. Martin, Oklahoma City, to erect fourth story to Strand Hotel; 50x140 ft.; brick walls; gravel composition roof; pine floors; addition to heating plant; extension of lighting system; elevator; cost \$500; Bailey & Bailey, Architects, Oklahoma City; construction begins about Jan. 1. Address Strand Theater Co.

S. C., Greenville.—Imperial Hotel has plans by F. H. & J. G. Cunningham, Greenville, for improvements and extension to hotel; total frontage 156 ft.; fireproof; steel and reinforced concrete; finished in buff impervious brick; Indiana limestone trimmings; terrace garden; sunroom; new dining-room to seat 500, enlarged lobby and kitchen; cold-storage plant; electric elevator, etc.

Tex., San Angelo.—C. C. McBurnett will erect hotel; 7 stories; fireproof; not less than 110 rooms, about 75 with baths; mezzanine and banquet hall on second floor; dining room on first floor to seat 200; roof constructed to permit converting into roof garden; refrigerating plant, elevators, vacuum cleaning system; 100x110 ft.; concrete floors; steam heat; cost \$150,000; completion by Sept. 18. (Lately noted having plans prepared by Geo. Burnett Co., Waco, Tex.)

Tex., San Saba.—T. A. Murray, J. F. Sorrell, G. A. Walters and others are organizing company to erect \$30,000 hotel.

Tex., Weimar.—R. M. Insall, Fredericksburg, Tex., acquired 635-acre site and will improve; erect additional story to hotel, probably erect brick building adjoining, etc.

W. Va., Inger.—J. L. Huddleston, Mohawk, W. Va., has plans for store and hotel building. (See Stores.)

W. Va., Moundsville.—W. D. Alexander and J. A. Boyd will erect business and hotel building. (See Stores.)

MISCELLANEOUS

Ark., Rogers.—Barn.—Charles Hudspeth will erect livery barn.

D. C., Washington.—Stable.—Ada Ryder, 212 Massachusetts Ave. N. W., will erect 2-story frame stable; cost \$3500.

D. C., Washington.—Clubhouse.—Washington Athletic Club is having plans prepared by Milburn, Heister & Co., Union Savings Trust Bank Bldg., Washington, for clubhouse; cost of building and ground \$1,000,000.

Fla., Tampa.—Clubhouse.—Italian Club is having plans prepared by Bonfoey & Elliott, Tampa, for clubhouse; fireproof; brick; terra cotta trim; reinforced concrete walls and foundations; stone stairway; ballroom on third floor; reported cost \$50,000.

Ky., Baker-Welfare.—Elk Horn By-Product Coal Co. will erect welfare building. (See Dwellings.)

Md., Bengies-Racetrack, etc.—East Baltimore Driving Association, 246 Equitable Bldg., has plans by A. J. Wilson, same address, for grandstand, 304x60 ft.; "Parimutual" building, 80x300 ft.; paddock, 60x100 ft.; secretaries' office, 30x36 ft.; 2 stories; clubhouse, 50x30 ft.; concrete and wood; Carey asbestos shingle roof; concrete and wood floors; cost \$65,000; bids opened Dec. 15; construction begins Jan. 1. (Lately noted.)

Tenn., Nashville.—Stable.—Jas. W. Napier will erect brick stable; cost \$3500.

Tex., Port O'Connor.—Auditorium, etc.—Texas State Epworth League, W. N. Hagy, Pres. Board of Directors, 401 Frost Bldg., San Antonio, plans to expend \$75,000 to \$100,000 to improve encampment site; plans include 25 cottages, auditorium 100x100 ft., 100-room bathing pavilion, 1000-ft. pier and other buildings, improve grounds, etc.; all buildings to have frame shingle roof; plans by Mr. Hagy, as above; contract let for all material.

RAILWAY STATIONS, SHEDS, ETC.

Ark., Helena.—Illinois Central R. R., A. S. Baldwin, Ch. Engr., Chicago, and Missouri & North Arkansas R. R., C. A. Phelan, Gen. Mgr., Harrison, Ark., are reported to erect \$40,000 depot; details not definitely decided.

N. C., Monroe.—Seaboard Air Line Ry., W. D. Faucette, Chief Engr., Norfolk, Va., will improve passenger and freight stations.

S. C., Spartanburg.—Carolina, Clinchfield & Ohio R. R., C. Ward Crosby, Ch. Engr., Johnson City, Tenn., will erect office building for telegraph operators and yard superintendent; wood construction.

Tex., Dallas.—Gulf, Colorado & Santa Fe Ry., F. Merritt, Ch. Engr., Galveston, Tex., will erect freight depot; cost \$70,000.

Tex., Gainesville.—Gulf, Colorado & Santa Fe Ry., F. Merritt, Ch. Engr., Galveston, Tex., will erect freight depot.

SCHOOLS

Ala., Conyers.—City voted \$30,400 bonds to erect school. Address The Mayor.

Ark., Fordyce.—School Board will rebuild high school lately noted damaged by fire; loss \$50,000.

Ark., Jonesboro.—School Board will advertise for bids to erect school according to plans by R. H. Hunt, Chattanooga, Tenn.; cost about \$27,000. (Contract previously noted let, but this rescinded.)

Fla., Arcadia.—County Board of Education ordered vote Dec. 16 on \$35,000 bonds to erect grammar school in East Arcadia, dormitory for De Soto County High School, furnish school at Venus, erect school in Red Hill section, and remodel school at Avants.

Fla., Dania.—Board of Public Instruction, Fort Lauderdale, Fla., has plans by August Geiger, Miami, Fla., for school; 4 classrooms; reinforced concrete; composition roof; wood floors; electric wiring; cost \$7000; other details and date opening bids not determined; will issue \$30,000 bonds.

Fla., Davie.—Board of Public Instruction, Fort Lauderdale, Fla., will erect 4-classroom and auditorium school; reinforced concrete; composition roof; wood floors; electric wiring; cost \$10,000; date opening bids not determined.

Fla., Fort Green.—Fort Green Special Tax School Dist. No. 1 votes Dec. 16 on \$17,000 bonds to acquire site, erect and equip high school between Fort Green and Fort Green Springs; Jas. O. Bickley, County Supt.-Secy., Arcadia, Fla.

Fla., Jacksonville.—Board of Public Instruction of Duval County opens bids Dec. 23 to erect consolidated school at Broad and Ashley Sts.; 240x60 ft.; auditorium wing 50x85 ft.; brick bearing walls; concrete floor construction; 5-ply built-up roofing; metal (or terra cotta), tile and concrete joist floors; cost \$85,000; steam heat, \$5000; city lighting; Mellen C. Greeley, Archt., Jacksonville. (Lately noted.)

Fla., Largo.—Largo School Dist. voted \$5000 bonds to erect agricultural school. Address Dist. School Trustees.

Fla., Limestone.—Harrison City Special Tax School Dist. No. 31 votes Dec. 16 on \$9000 bonds to acquire site, erect and equip school; Jas. O. Bickley, County Supt.-Secy., Arcadia, Fla. (Lately noted.)

Fla., Gardner.—Gardner Special Tax School Dist. No. 14 votes Dec. 16 on \$10,000 bonds to erect and equip junior high school; Jas. O. Bickley, County Supt.-Secy., Arcadia, Fla.

Fla., Wall Springs.—Wall Springs School Dist. opens bids Dec. 12 to erect 2-story brick school; cost \$3000.

Ga., Fitzgerald.—City will vote on \$25,000 school bonds; similar issue previously voted but declared invalid. Address The Mayor.

Ky., Indian Bottom.—Stuart-Robinson College will build girls' dormitory; cost about \$5000; contract let Dec. 15.

La., Lamour.—Lamour School Dist. voted \$20,000 bonds to erect school. Address Dist. School Trustees.

N. C., Black Mountain.—Black Mountain School Dist. will issue \$35,000 bonds. Address W. H. Hipps, Supt. Buncombe County Public Schools, Asheville, N. C.

Okl., Goltry.—School Board has plans by Hawk & Parr, Oklahoma City, for school; unit type; brick; cost \$10,000; construction begun. (Previously noted.)

Okl., Henryetta.—City plans to issue \$35,000 bonds to erect school; O. W. Meacham, Mayor.

Okl., Okemah.—Board of Education receives bids until Dec. 11 to erect school; 2 stories; brick; plans and specifications on file with Board; W. P. Korex, Clerk.

S. C., Greenville.—District No. 8-C Mills will erect school; plans to issue \$25,000 bonds; W. B. Moore, T. A. Putman, T. B. Wallace, Trustees.

S. C., Greenville.—Trustees, P. T. Hayne, Chrmn., will soon call for bids to erect high school; 2 stories and basement; 140-ft. frontage; cost \$75,000; construction to permit erection of addition later; J. E. Sirrine, Archt., Greenville. (Lately noted.)

Tenn., Bailey.—White School Dist. No. 2 votes Dec. 17 on \$3000 bonds to remodel and refurnish school. Address Dist. School Trustees.

Tenn., Grand View.—American Missionary Association, 287 Fourth Ave., New York will erect dormitory to replace structure lately noted damaged by fire; probably wood; shingle roof; Georgia pine floors; steam heat; electric lights; cost \$5000; also probably construct elevated tank, water and light power plant to cost \$4000. Address P. S. Ault, Grandview Normal Institute, Grandview.

Tex., Abilene.—Simmons College will erect \$25,000 gymnasium; brick furnished by Thuber Brick Co.

Tex., Alba.—School Dist. voted special tax to erect school. Address Dist. School Trustees. (Lately noted.)

Tex., Alvin.—City voted \$18,000 bonds, to include \$14,000 to erect school and \$4000 to pay indebtedness. Address The Mayor.

Tex., Beaumont.—City opens bids Dec. 19 to erect 6-room addition to Junker Ward School; cost \$30,000. (Lately noted to erect \$20,000 school in refinery district.)

Tex., College Station.—Directors Agricultural & Mechanical College receive bids Dec. 16 at Hotel Westbrook, Fort Worth, to construct fireproof powerhouse and fireproof laboratory building at College Station and fireproof domestic arts building at Prairie View; cost about \$215,000; plans and specifications from Dept. of Architecture of College, College Station. (Previously noted.)

Tex., Forney.—City is reported planning to erect high school. Address The Mayor.

Tex., Houston.—Rice Institute will erect residence for Edgar Odell Loyett, Pres.; cost \$10,000; plans by Institute architect.

Tex., Llano.—City voted \$6000 bonds to supplement \$6000 bonds now available for school building and improvements. Address The Mayor. (Lately noted.)

Tex., Prairie View.—See College Station.

Tex., San Antonio.—Alamo Heights School Dist. No. 48 plans to issue bonds to erect school. Address Dist. School Trustees.

Va., Richmond.—School Board receives bids until Dec. 15 at office C. P. Walford, Clerk and Supervisor, 805 E. Marshall St., Richmond, to erect Kensington Avenue school; separate bids as follows: (a) erection of building; (b) furnishing and installing heating and ventilating system; plans and specification at office C. M. Robinson, School Archt., Times-Dispatch Bldg., Richmond, and Mr. Walford as above, call for fireproof; red tapestry brick; ornamented with terra cotta; marquise over each door way; classic style; 3 stories; 30 classrooms, administration offices, etc.; accommodations for 1250 pupils; 2 inclined planes besides stairways; cost \$131,000. (Lately noted.)

Va., Suffolk.—City will receive bids through Russell Edward Mitchell, Archt., 604 Paul-Gale-Greenwood Bldg., Norfolk, until Dec. 14 to erect high school; auditorium to seat

1100; 146x120 ft.; brick and frame; tin and gravel roof; oak floors; warm-air fan system heat to cost \$5000; electric lights; cornices and trimmings; cost \$45,000; separate bids on each branch. (Lately noted.)

W. Va., Mullens.—Board of Education, Stabfork Dist., has plans by A. F. Wysong, Princeton, W. Va., for high school; \$2x45 ft.; stucco on tile; composition roof; wood floors; city electric lights; cost \$12,000; low pressure direct indirect one-pipe steam heating system, about \$300. (Lately noted.)

STORES

Ark., Little Rock.—Ogeltree & Carter will erect \$4000 concrete business building.

Ark., Marked Tree.—A. B. Jones Grocery Co., Jonesboro, Ark., has plans by G. M. Shaw & Co., Tennessee Trust Bldg., Memphis, Tenn., for \$10,000 brick and concrete business building.

D. C., Washington.—T. E. Abbott has plans by Hunter & Bell, 411 Southern Bldg., Washington, for 2-story brick store and dwelling; cost \$7000.

Fla., Tavares.—St. Claire-Abrams will remodel opera-house for store and office building; 2 stories; erect addition in rear; cost \$15,000.

Ky., Louisville.—Bloom Realty Co. will expend \$5000 to alter building at 421 S. Fourth St.

La., Monroe.—J. C. Amman contemplates remodeling building to contain 6 stores.

La., Monroe.—Julius Cahn is having plans prepared for \$10,000 2-story business building; front to cost \$3000.

La., Nona.—Nona Mills Lumber Co. will erect business and office building. (See Bank and Office.)

Miss., Richton.—W. M. Chambliss will erect 2-story brick building; lower floor for stores; upper for offices.

Mo., Joplin.—H. C. Murphy and W. J. Leffen will erect business building.

Mo., Kansas City.—Estate represented by Herbert Sears, Boston, Mass., is reported to expend \$40,000 to remodel seven-story building occupied by Duff & Repp, 1216-24 Main St., for display rooms; install elevators, etc.

Mo., St. Louis.—Pelligreen Construction Co. will erect 2-story brick store and office building; cost \$18,000; construction by owner.

N. C., Monroe.—Houston-Heath Realty Co. will erect building to contain stores on lower floor. (See Hotels.)

Okl., Ardmore.—B. A. Simpson will erect business and office building; 6 stories; 75x200 ft.

Okl., Blackwell.—Dr. Buellesfeld is having plans prepared for business building; frontage 100 ft.

Okl., Frederick.—Mal Taylor plans to erect brick business building to be occupied by W. D. Wright Produce Co.

Okl., Perry.—Tom Doyle will erect brick business building.

Okl., Tulsa.—Ratcliff-Sanders Co. plans to erect 5-story brick business and office building.

Tenn., Memphis.—Lee estate has plans by George M. Shaw & Co., Tennessee Trust Bldg., Memphis, for store and office building; 2 stories; brick; 60x100 ft.; cost \$30,000.

Tex., Dallas.—Mr. White of White Storage & Transfer Co. will erect business building; definite plans not decided.

Tex., Dallas.—E. W. Morton and C. A. Mangold have plans by Lang & Wittchell, 1615 Southwestern Life Bldg., Dallas, for 2-story business building; 50x95 ft.; brick; tar and gravel roof; marbleoid floor; plate glass front; electric fixtures.

Tex., El Paso.—White House Shoe Store, M. Goblentz, Pres., is reported to expend \$100,000 to erect 2 additional stories; 165x90 ft.

Tex., Kirkland.—A. P. Harp will erect 2-story brick business building.

Tex., Nixon.—Nixon State Bank will erect store and office and bank building. (See Bank and Office.)

Tex., Paris.—Daniel estate will erect two-story brick business building.

Tex., Seymour.—Gorman & Lankford will erect 2 business buildings; 25x100 ft.; brick; old-style Taylor roof; wood floors; cost \$5000; day labor. Address Mont Lankford. (Lately noted.)

Tex., Waco.—Pio Crespi contemplates erecting business building on Austin St.

Tex., Waco.—Texas Lumber & Loan Co. will erect \$35,000 display-room.

Va., Portsmouth.—H. L. Alexander will erect building; 8 stories; brick and stone; 38x151 ft.; cost about \$25,000.

Va., Richmond.—L. Baldacci and L. Marchetti will erect 4 brick stores; cost \$4000.

Va., Richmond.—Simon Syle Clothing Co. will erect 3-story brick store; cost \$16,000.

Va., Richmond.—John G. Scott, executor, will erect 2 stores; cost \$3000.

W. Va., Iaeger.—J. L. Huddleston, Mohawk, W. Va., has plans by Pedigo & Garry, Bluefield, W. Va., for store and hotel building; 60x70 ft.; brick and wood joist construction; Barrett specification roof; ordinary oak floors; steam heat; electric lights; vault lights; cost \$15,000; contract to be let Jan. 1. Address architects.

W. Va., Moundsville.—W. D. Alexander and J. A. Bloyd will erect business and hotel building; lower floor, business room; upper floors, hotel rooms.

THEATERS

D. C., Washington.—Geo. Oakley Totten, Jr., 908 17th St., Washington, D. C., is designing Italian theater garden. (See Dwellings.)

La., Shreveport.—T. C. Barret will erect \$50,000 moving-picture theater, to be leased to Saenger Amusement Co.; seating capacity, 1200; total cost, including pipe organ, furnishings, etc., \$100,000.

N. C., Baden.—Tallasee Power Co. (subsidiary company to Aluminum Company of America) has plans by H. E. Kennedy Co., 401 Home Trust Bldg., Pittsburgh, Pa., for theater and lodge building; 125x68 ft.; fireproof; tile roof; reinforced concrete self-centering for some floors, combination tile and concrete for others; date opening bids not set; low-pressure steam heat to cost \$5000; electric wiring, \$8000; other details not determined. (Lately noted.)

Tex., McKinney.—R. L. Waddill will erect Queen Theater; 2 stories.

W. Va., Wheeling.—James Velas and Thomas Kokenes, both of Wheeling and Stephen Gallas of East Liverpool, Ohio, are reported to erect theater building at Market and 16th Sts.; site 67x136 ft.; fireproof; seating capacity 2500; cost \$100,000.

WAREHOUSES

Ark., Pine Bluff.—Fox Bros. Hardware Co. will soon let contract to erect warehouse; brick; 3 or 4 stories.

D. C., Washington.—Guy S. Zepp, care E. K. Fox, 1311 H St. N. W., has plans by

Spelden & Spelden, 1403 New York Ave. N. W., Washington, for warehouse at 122-132 Q St. N. E.; 90x180 ft.; 4 stories; reinforced concrete and brick; reinforced concrete and slag roof; reinforced concrete floors; electric lights; electric elevator (purchased); cost \$50,000; construction by owner, and he may be addressed.

Fla., West Palm Beach.—E. M. Brelsford, Prest. Bank of Palm Beach, will erect warehouse.

Ga., Ty Ty.—W. F. Sykes will erect 1-story brick warehouse; 40x60 ft.; day labor.

Ky., Louisville.—W. W. Heaton will expend \$3000 to repair brick warehouse.

La., Monroe.—Monroe Hardware Co. is having plans prepared for warehouse; 100x300 ft.; 3 stories; 2 elevators; cost \$50,000.

Md., Baltimore.—Pompeian Co., Coca-Cola Bldg., will erect warehouse to cost \$50,000 to \$100,000; let contract to Pfaunder Co., Rochester, N. Y., for glass-lined storage tanks with capacity of 497,000 gals. and to cost \$500,000; will increase total storage capacity to 1,000,000 gals.

Mo., Kansas City.—H. D. Lee Mercantile Co. plans to erect warehouse at completion of building now under construction; about 3 stories; 117x140 ft.

N. C., Winston-Salem.—W. G. Cranford will erect \$8000 warehouse.

Okla., Oklahoma City.—Oklahoma City Mill & Elevator Co. will erect warehouse; concrete; cost about \$25,000.

Tenn., Knoxville.—French Broad Navigation Co. will erect warehouse; frame; 2 stories; T. S. Laugherty is interested.

Tex., Fort Worth.—Binyon-O'Keefe Fireproof Storage Co. Incp'd. with \$50,000 capital by W. J. Binyon, Jr., C. A. O'Keefe and W. J. Binyon, Sr.; will erect 6-story reinforced concrete storage warehouse; fireproof; 90,000 sq. ft. floor space; 150 private rooms with steel doors; automatic sprinkler system; Sanguinet & Staats, Architects, Fort Worth; construction begins Jan. 1; completion by June 1.

Va., Norfolk.—Marcellus Hoffin has plans by Louis R. Moss, 1110 National Bank Bldg., Norfolk, for building on Monticello Ave.; 50x75 ft.; brick; gravel roof; frame floors; steam heat; bids opened.

Va., Richmond.—Geo. W. Brown will erect brick storage building; cost \$3500.

model old cells and erect additional cell; work to begin Jan. 1; completion in 90 days.

Tex., Forney.—Jail.—County Commrs. let contract to erect \$10,000 jail.

COURTHOUSES

Okla., Perry.—Noble County voted \$100,000 bonds to erect courthouse; let contract to Manhattan Construction Co., Muskogee, Okla.; J. W. Hawk, Archt., Oklahoma City.

DWELLINGS

Ala., Bessemer.—Howe Price and Lewis Milton let contracts to G. B. Edwards, Bessemer, to erect bungalows.

Ala., Birmingham.—American Cast-Iron Pipe Co. let contract to E. A. Penn & Co. to erect 7 dwellings; 6 of 2 stories; 1 single story; cost \$20,000.

Ala., Montgomery.—Dr. C. G. Laslie let contract to D. F. Gorrie & Son, Montgomery, to erect residence; 2 stories; brick veneer and shingle sides; composition shingle roof; rift pine floors; cost \$7000; Smith & Carter, Architects, Montgomery. (Lately noted.)

Ark., Rogers.—Chas. S. Applegate let contract to C. E. Bentley, Rogers, to erect residence; 34x50 ft.; frame; composition shingle roof; hot-air heat; A. O. Clark, Archt., Rogers.

D. C., Washington.—Chris Schmidt will remodel store and residence building. (See Stores.)

D. C., Washington.—Edward Collins let contract to Meatyard Construction Co. to erect 2-story residence; 30x36 ft.; hollow tile, stucco finish; slate roof; rift-pine floors; electric and gas lighting cost \$7500; hot-water heat, \$500; W. C. Nichols, Archt., 418 Oxford Bldg., Washington.

D. C., Washington.—B. L. Owens let contract to L. C. McPherson to erect two 2-story brick dwellings; cost \$7500; Geo. T. Santmyers, Archt., 921½ New York Ave. N. W., Washington.

Fla., Miami.—C. J. Martin let contract to B. L. Radell, Miami, to erect 12 six-room bungalows lately noted; brick and frame; asbestos, slate or tile roof; hardwood and tile floors; cost \$4000. (See Machinery Wanted—Plumbers' Supplies—Hot-water Equipment; Tile and Brick.)

Fla., St. Augustine.—Frank Perpall let contract to Charles B. Shugart to erect 2 dwellings; 5 rooms and bath; bungalow type.

Fla., St. Augustine.—J. A. Lew let contract to Charles B. Shugart to erect 4 one-story cottages; 5 rooms and bath.

Md., Baltimore.—William Essig let contract to Charles H. Gerwig, 2238 W. North Ave., Baltimore, to erect residence on Park Heights Ave.; 2 stories; frame; cottage type.

Miss., Corinth.—M. L. Hamlin let contract to James Taylor, Corinth, to erect 6-room frame bungalow.

Mo., St. Louis.—L. C. Glaser let contract to J. H. Williamson to erect \$4500 residence; 2 stories; brick.

Mo., St. Louis.—Mrs. E. Hentze let contract to P. Lemuth to erect 2-story tenement; brick; cost \$5000.

S. C., Charleston.—Dr. Joseph Maybank let contract to Thos. N. McCarrel, 217 Rutledge Ave., Charleston, to erect residence; 37x75 ft.; 2 stories; frame; slate roof; wood joists; hardwood floors; cost \$11,000; hot-water heat, \$800; Todd, Simons & Todd, Architects, 63 Broad St., Charleston; construction begun. (Previously noted.)

Tenn., Bristol.—Joe Strauss let contract to T. G. Martin, Bristol, to erect business building; brick; 2 stories, 25x100 ft.; 18 offices; Thos. S. Brown, Archt., Bristol.

Tenn., Memphis.—H. Darnell is reported to have let contract to J. W. Crawford, Memphis, to erect 2-story 9-room frame and stucco residence; cost \$9000.

Tex., Dallas.—Chas. Eubank of Eubank Machinery Co. let contract to O. L. Morris, Dallas, to erect residence; 10 rooms; hollow tile; tile roof; oak floors; cost \$10,000; heating, \$900; lighting, \$500; H. A. Overbeck, Archt., Dallas. Address owner. (Lately noted.)

Tex., Dallas.—E. E. Lee let contract to Fred. McQueen, Dallas, to erect residence; 39x32 ft.; frame; asphalt slate roof; wood floors; cost \$5000; C. W. Bulger & Son, Architects, 1009-10 Praetorian Bldg., Dallas. (Lately noted.)

Tex., Dallas.—A. V. Heister, 214 Hayne Ave., let contract to A. L. Winfrey to erect residence; 10 rooms; frame; cost \$4500.

Tex., Dallas.—P. B. Arrington, 709 Southwestern Life Bldg., let contract to William

Davies, Dallas, to erect residence; 10 rooms; frame; electric lights; cost \$4500.

Tex., Dallas.—C. F. Roderick, 1301 Elm St., let contract to N. H. Moffitt, 4917 Terry St., Dallas, to erect 4 dwellings in 4500 block Junius St.; 2 stories; 8 rooms; cost \$3500 each; also to erect three 2-story 10-room brick-veneer apartment buildings to cost about \$500 each; latter to have asbestos roofing, electrical fixtures, etc.

Tex., Dallas.—W. C. Proctor let contract to Geo. W. Moore, Dallas, to erect residence; 2 stories; 10 rooms; brick and tile; slate roof; hardwood and tile floors; electric fixtures; garage; cost \$20,000; C. D. Hill & Co., Architects, Dallas.

Tex., Dallas.—Dr. Landon C. Moore let contract to Russell Brown Co., 829 Busch Bldg., Dallas, to erect residence in Highland Park; 2 stories; hollow tile; 8 rooms; tile roof; hardwood floors; electric fixtures.

Tex., El Paso.—R. M. Dudley let contract to Eubank & Dibrell, El Paso, to erect residence; 50x90 ft.; stud and metal lath construction; green tile roof; wood floors; cost \$30,000; hot-water heat, \$1500; Gibson & Robertson, Architects, El Paso; all contracts let. (Lately noted.)

Tex., Fort Worth.—Virginia Schell let contract to W. T. Bains to erect residence; 7 rooms; one-story; brick veneer; cost \$4500.

Tex., Kyle.—John E. Parke let contract to Sid Leffingwell, San Marcos, Tex., to erect residence; 2 stories; 8 rooms; frame; pine floors; brick mantels; electric fixtures; cost \$3200; Roy L. Thomas, Archt., 602 Scarbrough Bldg., Austin.

Tex., Lubbock.—W. L. Elwood let contract to W. M. Rice Construction Co., Amarillo, Tex., to erect residence; 38x55 ft.; common brick stuccoed; flat with tar and gravel or prepared roofing; wood, tile and concrete floors; hot-air heat; electric lights; cost \$17,000; Smith & Townes, Architects, 3 and 4 Grand Theater Bldg., Amarillo. (Lately noted.)

Tex., San Augustine.—Jodie Williams let contract to S. G. Chumley to erect residence; 7 rooms and bath; completion about Jan. 15.

Tex., San Marcos.—Marcus Jackson let contract to Haston Bros., Austin, to erect residence; 2 stories; 9 rooms; brick; stone trim; composition roof; oak floors; concrete porch floors; tiled bath; electric lights; cost \$10,000; Roy L. Thomas, Archt., 602 Scarbrough Bldg., Austin.

Va., Portsmouth.—J. N. Harris has contract to erect 10 dwellings on Cuthrell St.

W. Va., Huntington.—W. G. Sharkey, Huntington, has contract to erect 3 dwellings for Meredith & Neel, 2 for Hans Watts, 3 for Mrs. Ethel Flesher, 1 for James Brackman; all hollow tile, veneered with native stone except 2, which will be Ohio freestone; dampproof. (See Machinery Wanted—Building Materials.)

GOVERNMENT AND STATE

Fla., Orlando.—Postoffice.—Treasury Dept., Jas. A. Wetmore, Acting Supervising Archt., will begin construction of postoffice building, for which Westchester Engineering Co., White Plains, N. Y., has general contract, Dec. 1; 75x75 ft.; first floor fireproof, balance wood; tile roof; reinforced floors on first floor; gas radiators; cost \$45,000. (Previously noted.)

La., Bogalusa.—Armory.—State let contract to E. N. Moore, 316 Baronne St., New Orleans, to erect armory; 78x133 ft.; 1 story; frame; composition roof; wood floors; screened; cost \$10,000; Rathbone De Buys, Archt., New Orleans. (Lately noted.)

Miss., Gulfport.—Exposition.—Mississippi Centennial Exposition Commission let following contracts: Carroll Blake Construction Co., Birmingham, Ala., to erect coliseum building to seat 5000 people; cost, if brick, \$43,635; hollow tile, \$42,996; Hancock & McArthur, Meridian, Miss.; Mississippi building, hollow tile, cost \$37,320; arts and crafts building, 100x75 ft.; manufactures building, 175x90 ft.; women's, boys' and girls' building, 175x90 ft.; efficiency building, 100x75 ft.; metal lath with stucco finish; total cost, \$89,838; P. J. Krouse, Meridian, Miss., and Nolan & Torre, New Orleans, Architects; construction begins in 10 days; completion by June 1. (Lately noted.)

Tex., Velasco.—Coast-guard Station.—U. S. Coast Guard Office, Washington, D. C., let contract to W. D. Lovell, 1415 8th St. S. E., Minneapolis, Minn., to erect lately-noted coast-guard station; steel frame; asbestos shingle roof; frame floors; cost \$18,000. Address contractor. (See Machinery Wanted—Building Materials—Steel; Millwork; Piling.)

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

D. C., Washington.—John L. Warren let contract to J. E. Fox, 37 R St. N. E., Washington, to erect apartment-house at 1156 15th St. N. W.; 7 stories; 129x100 ft.; brick and stone; reinforced concrete walls; slag roof; concrete and tile floors; cost \$200,000; Hunter & Bell, Architects, 411 Southern Bldg., Washington. (Lately noted.)

N. C., Charlotte.—W. L. Alexander let contract to remodel building for apartments, etc. (See Stores.)

Okla., Tulsa.—H. C. Stahl, Bellevue, Ohio, has plans by and let contract to Emmett Brunson, 316 Robinson Bldg., Tulsa, to erect apartment-house; 70x140 ft.; mill construction; gravel roof; concrete and wood floors; gas and electric lights; cost \$20,000; construction begins about Dec. 15.

S. C., Greenville.—U. Z. Ellis let contract to R. G. Sheck, Easley, S. C., to erect apartment-house; 12 rooms; brick veneer; shingle roof; cost \$5500; H. C. Jones, Archt., Greenville.

S. C., Greenville.—W. Z. Ellis let contract to R. G. Sheck, Easley, S. C., to erect 2-family apartment-house; brick veneer; 2 stories; H. Olin Jones, Archt., Greenville.

Tex., Dallas.—S. F. Roderick let contract to erect 3 apartment buildings. (See Dwellings.)

W. Va., Huntington.—J. S. Walker let contract to E. Willis & Co., 1802 12th Ave., Huntington, to erect apartment-house; 30x60 ft.; face brick and tile; slate roof; wood floors; gas heat; city electric lights; cost \$10,000; Meador & Sweeney, Architects, Robson-Prichard Bldg., Huntington. (Lately noted.)

ASSOCIATION AND FRATERNAL

La., Bogalusa.—Y. W. C. A. let contract to E. N. Moore, 316 Baronne St., New Orleans, to erect building; 133x147 ft.; 1 story; frame; wood floors; composition roof; concrete and tile swimming pool; cost \$25,000; Tex., to erect jail; 2 stories; red brick; re-

heating plant about \$200; Rathbone De Buys, Archt., New Orleans.

Va., Buchanan.—I. O. O. F. and Jr. O. U. A. M. let contract to Rucker Booze, Buchanan, to erect store and lodge building; 32x70 ft.; brick; metal roof; lower floor, concrete; upper floors, wood; electric lights; cost \$4200. (Lately noted.)

BANK AND OFFICE

D. C., Washington.—Central Construction Co. let contract to Geo. A. Fuller Co., Munsey Bldg., Washington, and Fuller Bldg., New York, to erect building at Pennsylvania Ave. and 18th St.; steel frame; fireproof; 11 stories and basement; 157x214 ft.; cost \$685,000; completion by May 1; Milburn, Heister & Co., Architects, Union Savings Bank Bldg., Washington. (Lately noted.)

Fla., Plant City.—Kilgore Seed Co. let contract to erect warehouse and office building. (See Warehouses.)

Tenn., Bristol.—Joe Strauss let contract to erect store and office building. (See Stores.)

CHURCHES

Mo., St. Louis.—McCausland Avenue Presbyterian Church let contract to Lucke & Bopp, St. Louis, to erect one-story brick building; cost \$12,000.

Tex., Paris.—Baptist Church let contract to Harrison & Glover to erect parsonage; cost \$4500.

CITY AND COUNTY

Tenn., Jackson.—Jail.—Campbell County let contract to Pauly Jail Building Co., St. Louis, to erect jail; brick and concrete; concrete roof and floors; cost \$6000; construction begins in 60 days. Address contractor. (Lately noted.)

Tex., Falfurrias.—Jail.—Brooks County let contract to Charles Fuess & Sons, Cuero, Tex., to erect jail; 2 stories; red brick; re-

HOSPITALS, SANITARIUMS, ETC.

Va., Cambria.—Christiansburg Industrial Institute, E. A. Long, Princ., let contract to Morris C. Miller, Christiansburg, Va., to erect hospital; brick sheathed; slate roof; pine floors; probably hot-water heat; electric lights; cost \$7500; Morris & Erskine, Archts., Croser Bldg., Philadelphia. Address Contr. (Lately noted.)

HOTELS

Tex., Dallas.—Central Real Estate Co. let contract to erect store and hotel building. (See Stores.)

Tex., Waco.—Raleigh Hotel let contract to R. C. Allen, Waco, to erect dance hall and convention-room.

MISCELLANEOUS

Fla., St. Petersburg.—Clubhouse.—St. Petersburg Yacht Club let contract at \$17,049 to J. Frank Chase to erect clubhouse; plans by Geo. W. Stewart, St. Petersburg, call for 2 stories; fireproof; lower floor 68x52 ft.; upper story 49x52 ft.; porches on all sides; porte cochere on 2 sides; Spanish and concrete tile floors; hollow-tile walls; terra-cotta roof; vacuum steam heat; electric lights and call bells; gas for cooking; let contract for plumbing to C. W. Hewitt, St. Petersburg. (Lately noted.)

Fla., Tampa.—Clubhouse.—Circulo Cubano, Dr. A. H. Kohley, Prest., let contract at \$59,773 to McGucken & Hyer, Tampa, to erect clubhouse; 90x140 ft.; cream brick or stucco; 3 stories; basement for gymnasium and swimming pool; third floor for dance hall; bowling alley; overhead track around wall of gymnasium; total cost, \$70,000 to \$75,000. (Previously noted.)

Ga., Valdosta.—Stable.—Ham Bros., Hill Ave. and Lee St., let contract to John L. Redding, Valdosta, to erect stable; 90x120 ft.; brick; tin roof; cement floors; cost \$5000; Loyd Greer, Archt., Valdosta. (Lately noted.)

N. C., Charlotte.—Home.—North Carolina Crittenden Home let contract to J. D. Ford to erect \$8000 addition. (Previously noted.)

N. C., Wilmington.—Home.—Sam Bear, Jr., let contract to L. H. Vollers, Wilmington, to erect Mina Bear Memorial Home; 2 stories and attic; brick; 11 bedrooms, living-room and dining-room; steam heat; B. H. Stephens, Supervising Archt., Wilmington.

RAILWAY STATIONS, SHEDS, ETC.

Va., Bon Air.—Southern Ry. Co., B. Herman, Ch. Engr. M. W. and S., Washington, D. C., let contract to Willard, Boggs & Co., Spartanburg, S. C., to erect passenger station; frame; 26x70 ft.; platform with concrete curb; concrete wall supporting driveway, steps and railing. (Lately noted.)

Va., Lynchburg.—Norfolk & Western Ry., J. E. Crawford, Ch. Engr., Roanoke, Va., let contract to John P. Pettyjohn & Co., Lynchburg, to erect addition to freight warehouse; 2 stories; 125 ft. long; brick, steel and wood; offices on second floor.

SCHOOLS

Fla., De Land.—Board of Public Instruction let following subcontracts for school for which Florida Engineering & Construction Co., Jacksonville, has general contract: George Ackroyd, for wood work; J. M. Snow, for brick work; De Land P. I. Co., De Land, for electrical work; plans by Francis M. Miller, De Land, call for brick and wood; 165x55 ft.; 5-ply built-up roofing; wood joist floors; cost \$55,000. (Lately noted.)

Ky., Georgetown.—Kentucky Baptist Education Society let contract to G. H. Nunneley Co., Georgetown, to repair dormitory damaged by fire; 32 rooms; brick; wood floors; metal roof; city lighting; wiring now being installed; cost \$5500. (Lately noted.)

Okl., Ada.—School Board let contract to F. D. Hill, Ada, to erect school; 2 stories and basement; 76x46 ft.; brick; cost \$13,000; let heating and plumbing contract to Chas. A. Zorn, Ada; Hawk & Parr, Archts., Oklahoma City. (Lately noted.)

Okl., Konawa.—School Board of Dist. No. 50 let contract to W. R. Lovelace to erect school.

S. C., Angelus.—Chesterfield County Commrs. let contract to Oliver & Griget, Ruby, S. C., to erect school; R. A. Rouse, County Supt. of Education, Chesterfield, S. C. (Previously noted.)

Tex., College Station.—Agricultural and Mechanical College, W. B. Bizzell, Prest., let contract to Ledbetter & Greathouse, Austin, Tex., to erect \$100,000 auditorium and \$75,000 experiment station administration building;

fireproof; Endress & Watkins, Archts., Scanlan Bldg., Houston, and Littlefield Bldg., Austin. (Lately noted.)

Tex., Eagle Ford.—Trustees let contract to Graham & Graham, Fort Worth, to erect school; 2 stories; 50x80 ft.; concrete construction; gravel roof; wood or concrete slab floor construction; cost \$10,000; heating plant, \$1000; lighting, \$250; C. H. Leinbach, Archt., Dallas. Address contractors. (Lately noted.)

Tex., Gay Hill.—Gay Hill School Dist. let contract to erect school. Address Dpt. School Trustees. (Lately noted.)

Tex., Polytechnic.—Polytechnic School Dist. let contract at \$13,400 to J. C. Taylor, Fort Worth, to erect school; 2 stories; 6 rooms; fireproof; mill construction; yellow pine floors; jacketed stoves; city lighting; J. J. Pollard, Archt., Fort Worth. (Lately noted.)

Va., Pinners Point, P. O. at Portsmouth.—Western Branch Dist. School Board let contract to East-Johnson Co., 633 Law Bldg., Norfolk, to erect school; 2 stories; brick; 1 classroom; let contract for heating, ventilation and sanitation to American Heating & Ventilating Co., Richmond; cost \$10,000 to \$15,000; Wm. Newton Diehl, Archt., 46-47 Chamberlaine Bldg., Norfolk. (Lately noted.)

STORES

Ala., Bessemer.—Pegram-Patton Drug Co. let contract to T. A. Knight, Bessemer, to construct store front in building; steel and plate glass.

Ark., Blytheville.—Hillpeter & Shonys has plans by and let contract to J. L. Thompson, Blytheville, to erect business building; 2 stories; brick; 50x140 ft.; composition roof; plate-glass front; brick and stone; hot-air heat; elevator; contractor will purchase materials; cost \$15,000.

Ark., Conway.—Bishop & Glenn let contract to J. M. Courtney to erect brick building on N. Front St.

Ark., Little Rock.—Geo. Elckoff let contract to W. H. Lamberson of Little Rock to erect business building; brick.

D. C., Washington.—Chris Schmidt has plans by Julius Wenig, 721 10th St. N. W., and let contract to August Getz, 804 D St. N. E., both of Washington, to remodel store and residence; 2 stories; brick; cost \$3900.

Ga., Atlanta.—Rhett, O'Brien & Lechridge let contract to C. Shelverton, Atlanta, to erect 3-story business building; cost \$10,150.

Ga., Atlanta.—A. Berman, 197 Edgewood Ave., has plans by and let contract to A. D. Hamilton, 69 Ivy St., Atlanta, to erect 1-story building; 49x100 ft.; brick and wood; tar and gravel roof; concrete floors; cost \$10,000. Address contractor.

La., Lake Charles.—Mrs. Crory let contract to P. Oliver & Son, Lake Charles, to erect store building on Railroad Ave.

La., Lake Charles.—Matthews & Cronan let contract to P. Oliver & Son, Lake Charles, to erect store building.

Mo., Kansas City.—H. D. Lee Mercantile Co. let contract to Gray Construction Co., 400 O'Rear-Leslie Bldg., Kansas City, to erect building at 20th and Wyandotte Sts.; 149x160 ft.; 10 stories; reinforced concrete, stone, brick and terra-cotta; tar and gravel roof; concrete floors; thermos control steam heat; electric lights; Otis elevators; cost \$350,000; J. C. Sunderland, Archt., Kansas City; construction begun; also reported to erect warehouse at completion of this structure. (Previously noted.)

N. C., Charlotte.—W. L. Alexander, 4 S. Tryon St., let contract to Blythe & Isenhour, Charlotte, to remodel building at 1600 South Blvd. for 2 stores and 4 apartments; brick veneer; gravel roof; wood floors; 45x38 ft.

Okl., Cleo.—Norton Bassett let contract to C. F. Waldo to erect business building; 25x60 ft.; cement blocks.

Tex., Dallas.—E. W. Morton and C. A. Mangold have plans by Lang & Wittich, 1615 Southwestern Life Bldg., Dallas, and let contract to G. W. Hewett, Winitka and Gree Sts., Dallas, to erect business building; 2 stories; 50x95 ft.; brick and marble; tar and gravel roof; marbleoid floors; electric fixtures.

Tex., Dallas.—M. H. Mahana let contract to W. F. Huggins, 2725 Lake Ave., Dallas, to erect 1-story business building; 60x90 ft.; cost \$8000.

Tex., Dallas.—R. D. von Tress, 833 Exposition Ave., let contract to S. E. Lee, Dallas, to erect business building; 1 story; 25x60 ft.; face brick; plate-glass front; cost \$4000.

Tex., Dallas.—Central Real Estate Co. let contract to M. A. Faber, 2105 Leonard St., Dallas, to erect business and hotel building; 2 stories; 20 rooms; 60x100 ft.; enamel face

brick, steel and marble; tar and gravel roof; metal ceiling on lower floor; gas and electric fixtures; cost \$22,000; Woerner & Cole, Architects, Sumpter Bldg., Dallas. (Lately noted.)

Tex., Paris.—C. H. Noyes let contract to J. W. Harrison to erect brick business building.

Va., Buchanan.—I. O. O. F. and Jr. O. U. A. M. let contract to erect store and lodge building. (See Association and Fraternal.)

THEATERS

Fla., Orlando.—Dr. P. Phillips let contract to F. A. Peppercorn, Orlando, to erect theater; 64x118 ft.; brick and stucco; Barrett specification roof; wood, tile and cement floors; Murray S. King, Archt., Orlando. (Lately noted.)

Md., Baltimore.—Southern Amusement Co., Henry W. Webb, Prest., 1318 Fidelity Bldg., let contract to Cogswell-Koether Co., 406 Park Ave., Baltimore, to erect theater at Cross and Light Sts.; fireproof; stone, brick and steel; slag roof; concrete floors; seating capacity 1200; cost \$30,000; Oliver B. Wight, Archt., Munsey Bldg., Baltimore. Address contractor. (Previously noted.)

Tex., Cleburne.—Mays & Fitzpatrick Amusement Co., J. F. Green, Mgr., let contract to J. A. Thomas to erect theater;

45x100 ft.; seating capacity 1000; cost \$15,000; completion by Mch. 1.

WAREHOUSES

D. C., Washington.—S. Kann Sons & Co. let contract to James L. Parsons, Munsey Bldg., Washington, to remodel 5-story brick warehouse; cost \$4000.

Fla., Plant City.—Kilgore Seed Co. let contract to R. E. Fletcher, Plant City, to erect warehouse and office building; 50x103 ft.; brick; gravel roof; wood floors; cost \$6000 to \$7000; hand elevator, \$250. (Lately noted.)

Md., Baltimore.—Baltimore Pearl Hominy Co., Frank B. Smith, Secy-Treas., Howard and Ostend Sts., let contract to Consolidated Engineering Co., Calvert Bldg., Baltimore, to erect 2-story brick warehouse; 60x100 ft.; cost \$12,000; Otto Kubitz, Archt., 606 Hoffman Bldg., Baltimore.

Mo., St. Louis.—Century Electric Co., 19th and Pine Sts., let contract to Woermann Constr. Co., 513 Century Bldg., St. Louis, to erect warehouse; 60x150 ft.; brick and reinforced concrete; composition roof; cost \$39,000; Kilpstein & Rathmann, Archts., Chemical Bldg., St. Louis. (Lately noted.)

Tex., Beaumont.—E. L. Wilson Hardware Co. let contract to erect warehouse; 2 stories; brick and concrete; 113x300 ft.; reported cost \$60,000. (Lately noted.)

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

"WANTS"

Air Compressor.—White Furniture Co., Mebane, N. C.—Second-hand compressor, belt-driven and in first-class condition, to furnish 75 to 100 cu. ft. air per minute; for immediate delivery.

Amusement Supplies.—H. M. Wade Mfg. Co., Charlotte, N. C.—To correspond with manufacturers of swings, bars, slides and other supplies for playgrounds.

Blower, etc.—H. M. Maire, C. E., Austin, Tex.—Prices on blowers, motors, filter plates and piping; for sewage-disposal work, Gainesville, Tex.

Bookbinding Equipment.—See Farm Implements, etc.—M. Wolkoff.

Bottling Machinery.—Emporia Concrete & Construction Co., Emporia, Va.—To correspond with manufacturers of bottling machinery.

Bottling Machinery, etc.—Hobo Medicine Mfg. Co., D. W. Bailey, Mgr., Singer, La.—Herb mills, bottle fillers, filters, etc.

Brick and Stone.—Chrms. Building Commission, Presbyterian Church, Franklin, W. Va.—Prices on brick and stone for \$12,000 to \$14,000 church and Sunday-school building.

Bridge Construction.—See Road and Bridge Construction.—McDowell County Court, W. W. Whyte, Clerk, Welch, W. Va.

Bridge Construction.—Webb County Commrs., J. A. Rodriguez, County Clerk, Laredo, Tex.—Bids until Dec. 15 to construct steel bridge across Santa Isabel Creek, 15 mi. from Laredo; plans and specifications on file with County Clerk.

Bridge Construction.—Escambia County Commrs., Brewton, Ala.—Bids until Dec. 27 to construct 375 ft. of bridge over Big Escambia Creek near Flomaton, Ala.; bids on both steel bridge with concrete floor and abutments and reinforced concrete bridge; plans and specifications on file with W. S. Keller, State Highway Engr., Montgomery.

Bridge Construction.—Warrior River Bridge Co., W. S. Prout, Prest., Demopolis, Ala.—Bids until Dec. 10 to construct steel drawbridge, 150-ft. opening in clear; 1 mi. from Demopolis; plans and specifications on application.

Bridge Superstructure.—Cabell County Court, R. S. Douthat, Clerk.—Receives bids until Jan. 4 to construct superstructure of bridge, concrete work for floors and brick

pavement over Four Pole Creek; plans and specifications on file office of Oliver & Maupin Engineering Co., Courthouse, Huntington, W. Va.

Building Materials.—W. G. Sharkey, Huntington, W. Va.—Prices, f. o. b. Huntington, on building materials for 9 dwellings.

Building Materials.—Longest & Tessler Co., Greensboro, N. C.—Estimates until Dec. 9 on following items for erection of Junior High School at Charleston, W. Va.: Reinforcing steel, metal laths, pressed steel joist, limestone, roofing and sheet metal work, structural steel, ornamental iron, millwork, finish hardware, painting, electric work, heating and ventilating, plumbing.

Building Materials.—W. D. Lovell, 1415 8th St. S. E., Minneapolis, Minn.—Prices on steel, millwork, piling and asbestos shingles for \$18,000 U. S. Coast Guard Station at Velasco, Tex.

Canning Machinery.—Blanks Everett, Acting Gen. Mgr., Chamber of Commerce, Birmingham, Ala.—Addresses of manufacturers of canning machinery.

Carbon Machinery.—W. J. Jones, 122½ W. Main St., Ardmore, Okla.—Addresses of manufacturers of machinery to manufacture carbon from natural gas.

Cars.—Jewel Supply & Equipment Co., 34 S. Calvert St., Baltimore, Md.—Twelve 1½-yd. 35-lb. gauge V-shape dump cars.

Conveying Machinery.—Miller Supply Co., D. M. Miller, Jr., Brevard, N. C.—Machinery for handling sand from pit to railway cars and wagons; also for taking sand from river.

Cotton Textiles, etc.—Jorge Salomon, Casilla Postal No. 56, Mollendo, Peru.—Addresses of manufacturers of cotton textures; drillings and materials for making underclothing for ladies and children; toys; soap, and similar small articles.

Cotton Twine Machinery.—Wm. McDonald, care Y. M. C. A., Mobile, Ala.—Addresses of manufacturers of machinery for manufacturing cotton twine.

Cranes.—Bureau Yards and Docks, Navy Dept., Washington, D. C.—Bids until Dec. 26 for furnishing and installing 80-ton bridge crane, 3 15-ton bridge cranes, 12 5-ton wall cranes and 8 2-ton wall cranes, more or less, in each of new structural shops at navy-yards, Norfolk and Philadelphia; plan and

specification on application to Bureau or to commandants of navy-yards named.

Crane, etc.—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until Dec. 19 for erecting transfer table for gantry crane at Indian Head, Md.; for furnishing and installing pneumatic tube system in State, War and Navy Bldg.; for changing 110-ton trolley on crane to 135-ton capacity, and delivering altimeters, steel baskets, brass, bronze, copper, ferromanganese, hardware, etc., wrought-iron, lathes, hand screw and milling machines, radio wave meters, monel metal, white paper for blue-print coating, power gap shears, steel, wood tubs and motor delivery wagon at navy-yard. Apply for proposals.

Ditching Machine Construction.—Williams Rotary Ditching Machine Co., J. W. Watkins, Secy., Jonesboro, Ark.—To let contract for moldings and construction of various parts of ditching machines, or contracts for complete construction of the machines.

Electric-light Equipment.—Newcastle Light & Power Co., R. H. Helm, Secy.-Treas., Newcastle, Tex.—Prices on 20 K. W. transformers; No. 10 copper wire; 25-30 and 35 white cedar poles.

Electric Motors.—Victoria Hardware Co., Victoria, Tex.—Data on feasibility of using same motor for freight elevator and pipe-cutting machine. (See Elevator; see Pipe-cutting Machine; see Incinerator.)

Electric Motors.—K. R. Forry, care Scheidler Machine Works Co., Newark, O.—Prices on electric motor for clayworking plant to be built at North Mountain, W. Va.

Electric Motor.—See Blower, etc.—H. M. Maize, C. E., Austin, Tex.

Electric Work.—See Building Materials. Longest & Tessier Co.

Electric Motor.—See Pump, Lift and Motor.—H. M. Maize.

Electrical Machinery.—John G. Duncan Co., 308 W. Jackson Ave., Knoxville, Tenn.—Dealer's price on 125 H. P. squirrel cage 3-phase, 60-cycle 2200-volt 900 R. P. M. induction motor; new or second-hand; can use up to 150 H. P.

Elevator.—Victoria Hardware Co., Victoria, Tex.—Freight elevator with 8x12-ft. platform; to handle farm wagons and machinery; 220-volt 3-phase electric drive.

Elevator (Hand Power).—R. N. Barber & Co., Waynesville, N. C.—Prices on second-hand hand-power elevator of small capacity, with platform not over 4 ft. 6 in. by 6 ft.; for elevating apples; height to be reached, 12 ft.; must be first-class condition.

Elevators.—Bureau Yards and Docks, Navy Dept., Washington, D. C.—Bids until Dec. 18 for 2 electric freight elevators; one each for new structural shops at navy-yards, Norfolk and Philadelphia; plan and specification on application to Bureau or to commandants of navy-yards named.

Engine (Donkey).—Warrior River Bridge Co., W. S. Prout, Pres., Demopolis, Ala.—Prices on donkey engine for turning bridge.

Engine and Boiler.—Board of Control, New Basin Canal and Shell Rd., D. J. Breen, Secy., New Orleans.—Bids until Dec. 22 to furnish and install heavy marine engine and Scotch marine boiler in tug Meta; plans and specifications on application.

Farm Implements, etc.—M. Wolkoff, 1216 Callowhill St., Philadelphia, Pa.—Equipment for Russian trade; to include automatic farm plows on wheels, new style knives in front, for 1 or 2 horses; 50 to 60 tooth harrows; axes and shovels without handles; molasses machinery; machinery to manufacture matches, 100 in box; book-binding machinery.

Feed Mills.—Slims Hardware & Plumbing Co., Georgiana, Ala.—To correspond with manufacturers of feed mills to crush corn in ear and velvet beans.

Flywheel.—United States Electric Steel Co., 706 Union Bank Bldg., Pittsburgh, Pa.—Large band or rope flywheel from 20 to 24-ft. diameter, 48 to 62-in. face; can use with or without crankshaft; old Corliss engine wheel would do.

Foundry and Machine Shop Equipment.—W. P. Carson, High Point, N. C.—Addresses of parties having foundry and machine shop equipment. (See Woodworking Machinery, etc.)

Grading.—Comms. Dist. of Columbia, Washington, D. C.—Bids until Dec. 14 to grade streets, aggregating 201,000 cu. yds.; proposal forms, specifications and information from Chief Clerk, Engr. Dept., 427 District Bldg.

Handles, etc.—See Wire, etc.—Weir Bros.

Handle Machinery.—Colonial Lumber Co., Bearden, Tenn.—Prices on machinery to manufacture turned handles (plow, etc.); also on sand, wax, etc., for finishing.

Hardware.—See Farm Implements, etc.—M. Wolkoff.

Hardware, etc.—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until Dec. 19 for delivering asphalt coke, paint drier, garden hose, hardware, etc., monel metal, petroleum, solder, floor tile and whitening at navy-yard, Norfolk. Apply for proposals to supply officer, navy-yard, Norfolk, or to Bureau.

Hardware, etc.—Bureau Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until Dec. 19 for delivering glycerine and padlocks at navy-yard, Charleston, S. C. Apply for proposals to supply officer, navy-yard, Charleston, or to Bureau.

Hardware, etc.—Romero Hermanos, San Francisco de Macoris, Dominican Republic.—To represent manufacturers of elastic webbing for braces and trimmings for same; haberdashery; hardware in general; fine skins and furs; materials for making shoes and trunks; printers' ink and printing paper; furniture; extracts for making liquors.

Heating System.—Baltimore (Md.) Board of Awards, City Hall.—Bids until Dec. 6 to install heating system in engine-

Hydraulic Gun.—Jas. E. Cuthbert, 613 Mechanics' Bldg., Petersburg, Va.—Hydraulic gun for uncovering earth and light materials.

Hydraulic Equipment.—See Conveying Machinery.—Miller Supply Co.

Ice Plant.—Wm. A. Barris, care Young Men's Christian Assn., Petersburg, Va.—Plans and estimates on ice plant for town of 5000 population.

Incinerator.—Victoria Hardware Co., Victoria, Tex.—Burner (basement installation) for waste paper and boxes; 220-volt 3-phase electric drive.

Knitting Machinery.—B. F. Moore, Box 402, Raeford, N. C.—Data and prices on machinery for manufacturing knit goods.

Limestone.—See Building Materials.—Longest & Tessier Co.

Locomotives.—Pennsylvania Equipment Co., Philadelphia, Pa.—50-ton and two 60-ton 6-wheel switching engines; second-hand.

Lighting Fixtures.—Chrma. Building Committee, Presbyterian Church, Franklin, W. Va.—Prices on electric-lighting fixtures for \$12,000 to \$14,000 church and Sunday-school building.

Logging Equipment.—See Sawmill Equipment.—American Pine & Cypress Co.

Lumber.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids to furnish following: Schedule 471—White ash,

Millwork.—See Building Materials.—Longest & Tessier Co.

Millwork.—See Building Materials.—W. D. Lovell.

Mill (Ball).—Crown Mountain Mining & Power Co., G. C. Thornton, Secy.-Treas., Dahlonega, Ga.—Ball mill (not tube), capacity about 100 tons per 10 hours; first-class operating condition.

Mining Machinery.—See Conveying Machinery.—Miller Supply Co.

Monol Metal.—International Filter Co., Salem, Va.—Monol metal; for resisting chemical action.

Nails (Slaters).—Hugger Bros., 723 Bell Bldg., Montgomery, Ala.—Addresses of manufacturers of composition tinued slaters nails.

Nailing Machines (Box).—John G. Duncan Co., 308 W. Jackson Ave., Knoxville, Tenn.—Dealer's lowest cash prices on box nailing machines.

Oil Mill Machinery.—See Refining (Oil) Equipment.—W. J. Jones.

Ornamental Iron.—See Building Materials.—Longest & Tessier Co.

Paper Box Machinery, etc.—John G. Duncan Co., 308 W. Jackson Ave., Knoxville, Tenn.—Dealer's lowest cash price on paper box machinery.

Paving.—Galveston County Commrs., John M. Murch, County Auditor, Galveston, Tex.—Duplicate bids until Dec. 18 to improve Seawall Blvd. from Broadway to 22d St.; 18,500 sq. yds. 6-in. concrete sidewalk pavement, 13,250 lin. ft. curbing, 4825 cu. yds. 4-in. concrete base for brick roadway, 530 cu. yds. concrete sheet pile coping, 31,000 sq. yds. vitrified brick paving (contractor furnishing brick), 15,000 sq. yds. brick paving (county furnishing second-hand brick); alternate bids in duplicate also received for roadway paving, 43,700 sq. yds. asphalt paving; bidders to furnish their own specifications and state what base they will use; included in this bid to be proposal for 230 sq. yds. vitrified brick paving (county furnishing second-hand brick); plans and specifications on file with County Auditor.

Peanut Butter Machinery.—S. T. Carter, Mgr. Empire Cotton Oil Co., Bainbridge, Ga.—Addresses of makers of machinery to manufacture peanut butter.

Piping.—See Blowers, etc.—H. M. Maize, C. E., Austin, Tex.

Piling.—See Building Materials.—W. D. Lovell.

Pipe Fittings, Valves, etc.—See Structural Steel, etc.—Carroll Electric Co.

Pipe, Metals, etc.—Panama Canal, Earl I. Brown, Gen. Purchasing Officer, Washington, D. C.—Bids until Dec. 20 to furnish steel reinforcing bars, steel, locomotive tires, wrought-iron or steel pipe, steel cable, galvanized wire, chain, hardware for millwork, bronze grills, bronze, brass tubing, ferrules, compression cups, valves, saw sets, dies, drills, drill sockets, shackles, files, coke forks, shovels, automobile bells, sewer bends, aluminum cooking utensils, ground glass, soapstone table tops, etc.; blanks and general information relating to this circular (No. 1105) may be obtained from this office or offices of assistant purchasing agents, 24 State St., New York; 614 Whitney-Central Bldg., New Orleans, and Fort Mason, San Francisco; also from United States Engineers' offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash.

Pipe-cutting Machine.—Victoria Hardware Co., Victoria, Tex.—Machine to cut ½ to 3-in. threading pipe and ¾ to 4½-in. well casing; 220-volt 3-phase electric drive.

Plumbers' Supplies.—C. J. Martin, Miami, Fla.—Prices on plumbers' supplies for 12 6-room bungalows.

Plumbing.—See Building Materials.—Longest & Tessier Co.

Potassium Cyanide.—Crown Mountain Mining & Power Co., G. C. Thornton, Secy.-Treas., Dahlonega, Ga.—Potassium cyanide. State price per lb. and delivery.

Press Board.—See Tires (Lithographed). Augustin Munoz.

Pressed Steel Joist.—See Building Materials.—Longest & Tessier Co.

Printing Machinery.—John G. Duncan Co., 308 W. Jackson Ave., Knoxville, Tenn.—Dealer's lowest cash price on printing and office machinery.

FOR THE BENEFIT OF

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CONTRACTORS BANKERS MANUFACTURERS and OTHERS

Who find it profitable to follow up daily the industrial, commercial, railroad and financial development of the South and Southwest as published in this Construction Department,

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The construction news as published in the Daily Bulletin is invaluable to all business people who want to keep in daily touch with the organization of business enterprises of all kinds throughout the whole South. Unlimited possibilities for the creation of business, for securing contract work, for the sale of machinery and supplies of all kinds for bond buyers and others, are to be found through a close following up of the news in the Daily Bulletin.

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house No. 13, Fremont and Myrtle Aves.; drawings and specifications on file with J. J. Byrne, Bldg. Inspector.

Heating Plant.—Chrma. Building Committee, Presbyterian Church, Franklin, W. Va.—Prices on hot-air heating plant (burning wood) for \$12,000 to \$14,000 church and Sunday-school building.

Heating Plant.—Executive Committee Board of Education, T. F. Bonner, Chrma., Nashville, Tenn.—Bids until Dec. 7 to install heating plant in Knox City Public School; plans and specifications on file with Board of Education in Hume-Fogg High School Bldg.

Heating and Ventilating.—See Building Materials.—Longest & Tessier Co.

Herb Mills.—See Bottling Machinery, etc.—Hobo Medicine Mfg. Co.

Hose (Rubber).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids to furnish 82,500 ft. rubber air hose, schedule 477, delivery Norfolk and Brooklyn.

Hot-water Equipment.—C. J. Martin, Miami, Fla.—Prices on hot-water equipment for 12 6-room bungalows.

white oak and white pine, various deliveries; 11,000 ft. hickory, delivery Washington; 150 hackmatack knees, delivery Philadelphia, and 325 juniper dock poles, delivery Norfolk. Schedules 471 and 473—22,500 lbs. lignum-vitae logs, delivery Philadelphia, Puget Sound. Schedule 472—34,000 ft. square edge white cedar and 35,000 ft. cypress for boat building, delivery Philadelphia; 24,000 ft. grade A cypress and miscellaneous long-leaf yellow pine, delivery Washington; 40,000 ft. yellow pine partition, delivery Boston; North Carolina pine, yellow pine and Southern spruce, various deliveries; 165 spruce poles, spars and shores, delivery Brooklyn, Norfolk. Schedule 473—180,000 lbs. yellow pine decking, delivery Philadelphia; Douglas fir, various deliveries; 40,000 ft. white plank oak, delivery Puget Sound; California redwood, delivery Brooklyn; 100,000 redwood shingles, delivery Mare Island.

Machine Tools.—See Crane, etc.—Bureau Supplies and Accounts.

Match Machinery.—See Farm Implements, etc.—M. Wolkoff.

Metal Laths.—See Building Materials.—Longest & Tessier Co.

Pneumatic Tube System.—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids to furnish and install pneumatic tube system, Washington; schedule 462.

Pumps.—Jewel Supply & Equipment Co., 31 S. Calvert St., Baltimore, Md.—Underwriters' fire pump of 1000-gal. capacity; duplex steam pump of 4-in. suction, with capacity of 140 to 150 gals. per minute.

Pump, Lift and Motor.—H. M. Maire, C. E., Austin, Tex.—Bids on 4-in. submerged suction pump, 20-ft. lift, and motor for drive; for installation Ballinger, Tex.

Pump, etc.—Bureau Yards and Docks, Navy Dept., Washington, D. C.—Bids until Dec. 26 for furnishing and installing motor-driven centrifugal pump, and all piping, fittings, valves, hydrants and accessories necessary for extension to high-pressure fire system at Naval Proving Grounds, Indian Head, Md. Plan and specifications on application.

Pumping Machinery.—W. T. Thompson, Box 535, Snyder, Tex.—Prices on 8-in. centrifugal pump and power for same; extreme lift 20 ft., smallest lift 5 ft.; pump to be in operation by Feb. 1 for irrigation.

Rail.—John G. Duncan Co., 308 W. Jackson Ave., Knoxville, Tenn.—Dealers' lowest cash prices on 16, 20, 25, 30, 35, 40, 45, 50 and 56-lb. first-class relay rail; for quick shipment.

Rails.—Porter & Moore Co., 421 Water St., Norfolk, Va.—1 mi. second-hand 16-lb. T rails.

Rails, etc.—City of Beaumont, Tex., J. G. Sutton, City Secy.—Bids until Dec. 19 on part or all of following material: 4000 track ft. 75-lb. relay rail; 4000 track spikes; 275 pr. angle bars, 4600 tie plates and 440 track bolts, all for 75-lb. rail; 5 No. 8 frogs; 75-lb. rail throw switch, complete; 2 paving switches; 2 Ellis bumping posts; 75-lb. rail manganese steel double-track crossing frog; for further information apply to O. A. Seward, Jr., Res. Engr.

Reinforcing and Structural Steel.—See Building Materials.—Longest & Tessier Co.

Road Construction.—Donley County Commrs., J. H. O'Neal, County Judge, Clarendon, Tex.—Bids to construct roads; contractors to have representative in Clarendon on Dec. 11 to discuss plans with court and submit propositions; expend about \$75,000.

Road Construction.—McDowell County Commrs., W. W. Whyte, Clerk, Welch, W. Va.—Bids until Dec. 15 to grade, surface, drain and build bridges on 36 mi. of road; work to be let in 3 sections; plans and specifications obtainable from W. J. McClaren, County Road Engr., Welch.

Roofing.—Chrmn. Building Committee, Presbyterian Church, Franklin, W. Va.—Prices on roofing materials for \$12,000 to \$14,000 church and Sunday-school building.

Roofing and Sheet Metal Work.—See Building Materials.—Longest & Tessier Co.

Refining (Oil) Equipment.—W. J. Jones, 122½ W. Main St., Ardmore, Okla.—Addresses of manufacturers of equipment to refine crude oils and to manufacture by-products.

Safe.—National Securities Co., Leland D. Cox, Pres., Jacksonville, Fla.—Prices on safe.

Sash Weights.—W. H. Boylan, Box 557, Spartanburg, S. C.—Information relative to manufacture of sash weights, especially as to composition and necessary equipment; also location of such industry in South.

Scales.—Dothan Syrup Co., Dothan, Ala.—Addresses of manufacturers of automatic can-filling scales for syrup.

Sawmill Equipment.—American Pine & Cypress Co., L. O. Cox, Pres., 618 Atlantic Bank Bldg., Jacksonville, Fla.—Prices on complete equipment for band saw lumber plant of 25,000 ft. daily capacity, logging outfit, etc.

Sewer Construction.—City of Sapulpa, Okla., R. E. Jenness, City Clerk.—To open bids in Jan. on sewer construction; 4-ft. 2-ring brick sewer, length 850 ft.; 3040 ft. 24-in. tile; R. N. Whittlesey, Engr.

Sewer Construction.—City Commrs., Huntington, W. Va.—Bids until Dec. 18 to construct relief sewer on south side of city as follows: Section "A"—"B." 2532 ft. of 36-in. brick; Section "C"—"D." beginning from point in alley between 12th and 13th Ave. and on west side of 11th St.; plans, profiles, drawings and specifications on file; A. B. Maupin, City Engr.; O. H. Wells, Commr. of Streets, etc.

Shoe Manufacturing Supplies.—Negro Machine Shoe Manufacturing, St. Petersburg Tsvetoshnaya St., corner Lomanol No.

7, Petrograd, Russia.—Catalogues, price lists, discounts, etc., on machines for manufacturing foot covering and shoes; also for leather work in general; materials for the shoe industry, such as screws, machine tacks, wooden and metal pegs, thread and twine, paste and dressing, hooks, eyelets, laces and "extract" for leather work; also of machines for making screws, preparing finishing hooks and eyelets; sole leather; kid (chevreau), colored and black; calfskin, box calf, goatskin, etc.

Sprinkler System.—National Mattress Co., W. T. McNamara, Jr., Pres., Lynchburg, Va.—Addresses of manufacturers of sprinkler systems for manufacturing plants.

Steel Cells, etc.—Dept. of Justice, Office Supt. of Prisons, Washington, D. C.—Bids until Jan. 15 for furnishing and delivering at United States Penitentiary, Atlanta, Ga., steel cell fronts and mechanical locking device for entire cell blocks in east main cell wing, in accordance with specifications; copies and further information upon application.

Steel.—See Building Materials.—W. D. Lovell.

Steel, Electric Fittings, etc., and Miscellaneous.—Panama Canal, Earl I. Brown, Gen. Purchasing Officer, Washington, D. C.—Bids until Dec. 27 for galvanized steel, spring steel, bucket links, rivets, bolts, nails, tacks, poultry netting, pipe straps, electric cable and wire, steel conduit and fittings, electrical fittings, electric meters, electric fans, reflectors, slate slabs, insulating tape, spark plugs, fire extinguishers, tally registers, hawking beetles, rubber boots, leather, glue, manganese dioxide, wrapping paper, blue-print paper, lumber, and ties; blanks, etc., relating to circular (No. 1106) obtainable from this office or offices of assistant purchasing agents, 24 State St., New York; 614 Whitney-Central Bldg., New Orleans, and Fort Mason, San Francisco; also from United States Engineers' offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill., and Commercial Club, Tacoma, Wash.

Structural Steel, etc.—Carroll Electric Co., ("refer Harry R. Carroll"), 714 12th St., Washington, D. C.—Small quantity of pipe fittings, valves, etc.; also structural steel work in connection with contract the company has at naval torpedo station, Key West, Fla.; wants addresses of jobbers and fabricators in vicinity of Key West.

Tanks.—Delta Machine Co., 19 S. Sycamore St., Petersburg, Va.—Two gasoline storage tanks of 5000 to 8000 gals. capacity; second-hand will do.

Textiles, etc.—Abraham H. Benclimol, Tangier, Morocco.—To represent manufacturers of cotton and woolen fabrics; hosiery; flannel; shoes; slippers; cotton; wool; wheat flour; cottonseed oil; quote prices c. l. f. Tangier, in English and French money; send samples, etc.

Tile and Brick.—C. J. Martin, Miami, Fla.—Prices on tile and brick for 12 6-room bungalows.

Tins (Lithographed).—Augustin Munoz, P. O. Box 234, Havana, Cuba.—Addresses of manufacturers of lithographed tins for packing and canning conserves, food products, etc.; firms who can give prices that compete with local manufacturers; also exporting manufacturers of pasteboard (press board) for drying vermicelli (macaroni).

Vault Construction.—Hamilton County Commrs., Jasper, Fla.—Bids until Dec. 23 to construct fireproof vault in courthouse; plans obtainable for \$5 from Lloyd & Greer, Architects, Valdosta, Ga.

Wagon (Delivery, Motor).—Navy Dept., Bureau Supplies and Accounts, Washington, D. C.—Bids to furnish motor delivery wagon, schedule 467, delivery Washington.

Water-works.—City, W. H. Wilson, Mayor, Independence, La.—Bids until Jan. 9 to construct water-works; bids invited to furnish crude oil engines, pumps, steel tower and tank, reservoir, pumping station, fire hydrants, valves and water pipe; specifications, plans, etc., may be seen at office of Mayor or mailed on application to Consult. Engr., X. A. Kramer, Magnolia, Miss.

Water-works.—Water Commrs., Erie, Pa.—Bids until Dec. 6 to furnish 700 tons cast-iron pipe and special castings; 24-in., 30-in. and 36-in. gate valves; installation of piping and valves at pumping station, and

construction of concrete vaults, manholes and machinery foundations; copies of specifications obtainable at office of Chester & Fleming, Engrs., Union Bank Bldg., Pittsburgh, Pa.

Wire, etc.—Weir Bros., Box 291, Winnsboro, Tex.—Nos. 6 and 8 tinned wire of standard gauges; galvanized ribbon or flat wire; woods or handles; all for making balls.

Woodworking Machinery.—Griffin Foundry & Manufacturing Co., Box 224, Rome, Ga.—12-in. heavy molder; 8-in. heavy molder; 24-in. single surfacer; self-feed rip-

saw; circular resaw; 36-in. band saw; S. E. tenoning copes; hollow chisel mortiser; hand-feed rip-saw; single spindle shaper; 6-in. sticker; 16-in. swing cut-off saw; 30-in. knife grinder; emery stand; 12-in. hand jointer; boxboard matcher; sash trimmer; new and second-hand, in first-class condition.

Woodworking Machinery, etc.—W. P. Carson, High Point, N. C.—Addresses of parties having new or second-hand machinery for manufacture of insulation pins, brackets (telephone), cross-arms, spokes and handles; also foundry and machine shop.

RAILROAD CONSTRUCTION

RAILWAYS

Fla., New Smyrna.—Florida East Coast Ry. has completed and put in service its new cut-off line from New Smyrna to Maytown, Fla., 17½ mi., thus connecting up the Maytown branch to Okeechobee, Fla., in a direct route to St. Augustine and Jacksonville.

Fla., West Palm Beach.—Florida East Coast Ry. Co., it is reported, will build track on the north bank of the West Palm Beach Canal. E. Ben Carter, St. Augustine, Fla., is Ch. Engr.

Ga., Americus.—Americus, Hawkinsville & Eastern Ry. contemplates building an extension to Americus, about 12 mi. Has graded in Sumter county, 4 mi., to Methven's Store. Address J. S. Morton, Gen. Mgr. Georgia Lumber Co., Byromville, Ga.

Ga., Atlanta.—Charter is granted to the Atlanta & Anderson Ry. Co. to build the proposed electric interurban railway from Atlanta to Anderson, S. C., about 140 mi., according to previously published notice of application. J. L. Murphy, care Georgia Ry. & Power Co., Atlanta, and others are interested.

Ky., Hyden.—Louisville & Nashville R. R. Co. says there is nothing in the recent press report that it contemplated construction of a railroad in Perry County, Kentucky, up the middle fork of the Kentucky River.

Ky., Shelbyville.—C. E. Coon of McConellsburg, Pa., according to a local report, contemplates building the proposed electric railway from Shelbyville to Frankfort, Ky., about 22 mi.

La., Genesee.—Loranger, Louisiana & Northeastern Railway Co. contemplates building a 6 mi. extension to Hammond, La. Address Genesee Lumber Co., Genesee, La.

La., New Orleans.—New Orleans & Lower Coast R. R. Co. has been organized to succeed the New Orleans, Fort Jackson & Grand Isle R. R. Co., and will build extension from Burns to Venice, La., 16 mi. H. D. Emerson is Pres.; T. G. Bush and Lee Benoit, V.-Pa.; George Janvier, Secy.; Bernard McCloskey, Treas., and H. Genesee Dufour, General Counsel.

Md., Baltimore.—Washington, Baltimore & Annapolis Electric Ry. Co. says that the \$68,000 of betterment and improvement bonds for which approval was asked of the Public Service Commission of Maryland cover work completed in 1915, comprising sundry minor expenditures.

Miss., Union.—Extension of the Meridian & Memphis Ry. from Union to Sebastopol, Miss., 13 mi., has been completed and put in service.

Okla., Hugo.—Construction of a railroad from Hugo westward to connect with the Santa Fe system and the Missouri, Kansas & Texas Railway, and eastward to connect with the Kansas City Southern Railroad, is proposed by business men of Hugo and Col. C. C. Godman of Kansas City, Mo. Address Hugo Chamber of Commerce.

Okla., Ringling.—Ringling & Oil Fields Ry. Co., capital \$300,000, has been chartered to build a line north from Ringling to Oklahoma City, about 90 mi., which, together with other mileage in contemplation, will make a total of 120 mi. when complete. Incorporators include the principal men in the Oklahoma, New Mexico & Pacific Ry., now running from Ardmore west to Ringling. They are John Ringling, Pres.; C. C. Wilson, V.-P., both at 221 Institute Place, Chicago; J. L. Hamon, V.-P., Lawton, Okla.; H. A. Coomer, auditor and traffic manager, and P. C. Dings, Treas., both at Ardmore, Okla., and C. L. Anderson of the same city.

Okla., Tulsa.—The electric railway proposed from Tulsa to Sapulpa, Okla., 15 mi., is to be built by the Tulsa Traction Co., of which G. C. Stebbins is Pres.; A. J. Biddison, V.-P. and Gen. Counsel, and I. F. Crow, Secy. and Treas. The recent mention of A. A. Small as president of this company was erroneous; he was president of the Oklahoma Union Traction Co., which built a small line that is now owned, says a letter, by the Tulsa Traction Co. Plans will be announced later.

Tenn., Onelda.—Tennessee Ry. has built from Rosedale to Indian Creek, 2 mi., and proposes to build from there to the Morgan county boundary, 4¼ mi. T. F. Whittlesey, Onelda, is Gen. Mgr.

Tex., Dallas.—Missouri, Kansas & Texas Ry. contemplates building 2 mi. of second track at Dallas. L. F. Lonnbladh, Dallas, is Ch. Engr.

Tex., Orange.—Gulf, Sabine & Red River Ry. & Navigation Co. contemplates building extensions as follows: From Niblett's Bluff, La., to the Sabine River opposite Orange, Tex., 9 mi.; also from Francis, La., to Leesville, La., about 16 mi. Line is owned by the Litcher & Moore Lumber Co. of Orange.

Va., Roanoke.—Virginian Railway Co. contemplates building additional yard tracks at Roanoke, besides other improvements. H. Fernstrom, Norfolk, Va., is Ch. Engr.

Tex., Rockport.—Central R. R. of Texas Co., represented by A. L. Matlock of San Antonio, Tex., contemplates building a line from deep water at Harbor Island to Rockport, Lamar, Refugio and other points, finally reaching Quanah, Tex., together about 450 mi. This plan has been under consideration for some time. It was recently presented before the Texas Railroad Commission.

W. Va., Martinsburg.—Williamsport, Nessler & Martinsburg Ry. Co. is reported pushing construction within 7 mi. of Martinsburg. John Carmichael, Hagerstown, Md., is Pres.

W. Va., Wheeling.—Construction is reported begun upon the proposed Wheeling Coal R. R., chartered last spring to build from Wheeling east to the Monongahela River in Pennsylvania via Marianna, Pa., and other points. Incorporators include A. L. Morgan, W. C. Bates, B. V. Sommerville, J. B. Sommerville and C. C. Urquhart, all reported connected with the Pennsylvania R. R. W. C. Cushing, Ch. Engr. Maintenance of Way Pennsylvania Lines, Pittsburgh, Pa., may give information.

STREET RAILWAYS

Tex., San Angelo.—Franchise for a street-railway system has been approved at election just held, and Interstate Electric Corp., 141 Broadway, New York, proposes to build, including extension of present system.

On the Disposal of Estates.

The Safe Deposit & Trust Co. of Baltimore, which was incorporated in 1864, has issued a booklet called "Safeguarding the Future," which offers suggestions concerning the disposal of estates. The particular business of the company is the management and settlement of trust estates, which line of work it was authorized to do in 1876, and a specialty has been made of it since then. The company has never engaged in general banking, promotion or bond and stock brokerage business. It acts as executor, administrator or trustee under wills and deeds as may be required, and its long experience has resulted in the development of a carefully organized department.

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Accounts of Mercantile Firms, Corporations, Banks, Bankers and Individuals Invited.

Maryland Trust Company

BALTIMORE

Capital.....\$1,000,000

TRANSACTS A GENERAL TRUST AND BANKING BUSINESS

Correspondence and interviews invited

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FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks and general discussions of financial subjects bearing upon Southern matters.

FINANCIAL CORPORATIONS

Ark., DeQueen.—Smith State Bank is chartered; capital \$25,000; surplus \$2500; F. M. Smith is Pres.; C. S. Smith, Cash., and J. A. Wafford, V-P.

Fla., Jacksonville.—National Securities Co., capital \$25,000, surplus \$75,000. Leland D. Cox, Pres.; V. G. Black and J. E. Guilkey, V-Ps.; R. E. Castetter, Secy.-Treas. Business began Dec. 1.

Fla., Tampa.—National City Bank of Tampa has applied for charter; capital \$300,000.

Ga., Macon.—Bibb National Bank will begin business about Jan. 1 at Cherry and 2d Sts.; L. P. Hillyer, Pres.; E. J. Willingham and T. R. Turner, V-Ps.; A. H. Stewart, Cash.

La., Alexandria.—Home Investment Co. Incptd., capital \$50,000. W. J. O'Pry, Pres.; John R. Hunter, V-P.; L. C. Johnston, Secy.-Treas.

Miss., Wiggins.—Bank of Wiggins, capital \$10,000, is chartered. Among the stockholders are J. B. Dorsett, U. B. Parker of Wiggins and S. C. Culpepper of Bond.

N. C., Greensboro.—Greensboro Morris Plan Bank is chartered; capital \$50,000.

N. C., Hickory.—Catawba Trust Co., capital \$25,000, will begin business Jan. 1 with Geo. E. Ransom of Weldon, Pres.; E. L. Shuford of Hickory, V-P.; J. W. Orabaugh, Weldon, Cash.

N. C., Monroe.—Investment Corporation of Monroe Incptd., capital \$25,000; Incorporators, R. B. Redwine, S. O. Blair and J. C. Sikes.

Okla., Enid.—Buyers & Sellers' Association chartered; capital \$5,000. Incptd.: J. P. Hale, E. Mont Dempsey, Enid; Roy Enfield, J. L. Page, Fond Creek.

S. C., Simpsonville.—Perpetual Building and Loan Assn. has begun business; capital \$200,000. W. D. Fowler is Pres.; L. L. Richardson, V-P.; T. R. Moore, Secy., and G. E. Mayfield, Treas.

Tex., Alice.—South Texas Cattle Loan Co., succeeding the private cattle-loan business of Messrs. P. A. Presnall and Wm. Adams, has begun business; capital \$100,000; Incorporators, P. A. Presnall, Wm. Adams and J. C. McGill, Alice; W. W. Jones, Corpus Christi, and A. L. East, Kingsville.

Tex., Austin.—Standard Trust Co., capital \$100,000, has been organized with the following directors: John S. Stewart, Houston; Paul Williams, John T. Smith, W. F. Sternberg, Austin, and W. D. Meyers, Houston.

Tex., Cisco.—A new State bank, capital \$40,000, is being organized with H. C. Poe, Pres.; C. A. Hughes and Henry F. Blum, and others.

Tex., Fayetteville.—Farmers Private Bank, known as the Schumacher Bank, has been reorganized as a State institution with \$30,000 capital J. B. Kubena, Pres.; J. F. Chupke, Cashier.

Tex., Fort Worth.—A building and loan association is reported being organized by W. B. Sturman, Pres. of the Home Lumber & Supply Co., and others.

Tex., Jacksonville.—First Mortgage Loan Co. chartered; capital \$10,000. Incptd.: M. C. Parrish, W. Y. Forrest and L. W. Carroll.

Tex., Purdon.—First National Bank, to succeed the Bank of Purdon, has filed application for charter; capital \$25,000.

Tex., Texarkana.—Guaranty State Bank of Texarkana is authorized to do business; capital \$50,000.

Va., Norfolk.—Eastern Finance Corp. is chartered; capital \$10,000 to \$25,000; Thos. J. Powell, Pres.; J. H. DuVal, Secy.-Treas.

Va., Portsmouth.—Industrial Loan Corp. has amended its charter, changing its name to the Morris Plan Corp.

NEW SECURITIES

Ala., Leighton.—(School).—Bids will be received until 5 P. M. Dec. 10 for \$5000 of 5 per cent. 20-yr. bonds. J. T. Ferguson is City Clerk.

Ark., Dumas.—(Light).—\$15,000 of 6 per cent. 10-year electric-light district bonds have been purchased at par by the Merchants & Farmers' Bank of Dumas.

Ark., Lake Village.—(Highway).—Chief County proposes to issue about \$250,000 of bonds. H. E. Cook is County Judge.

Ark., Powhatan.—(Road).—\$18,000 of Walnut Ridge, Lawrence County, bonds will be issued about Jan. 1. J. C. Childers is County Clerk.

Ark., Russellville.—(Road).—Steps are being taken in Pope County to form a road district and issue bonds. Nothing definite as yet. D. A. Gibson is County Clerk, successor to H. V. Sewell.

Fla., Daytona Beach.—(Pier, Casino, Parking).—Election is to be held Dec. 14 to vote on \$16,500 of 5 per cent. 20-year bonds. Address The Mayor.

Fla., Homestead.—(Light, Street, Fire Station, Town Hall and Sewerage).—Bids will be received until 5 P. M. Dec. 18 for the following 6 per cent. \$500 denomination bonds: \$15,000 5-14-year electric light, \$15,000 5-10-year street, \$5000 11-15-year fire station, \$2500 11-15-year town hall, \$2500 16-20-year sewerage. W. B. Cayes is Town Clerk and Collector. (Recently noted.)

Fla., Key West.—(Road).—Election will probably be called in Monroe County to vote on bonds. Address Board of County Commissioners.

Fla., Lakeland.—(Street).—\$125,000 of bonds are to be issued about Jan. 10. John F. Carr is Mayor.

Fla., Lynn Haven.—(Improvement).—\$30,000 of 6 per cent. Internal Improvement bonds have been purchased at \$97 premium by Stacy & Braun, Toledo, O.

Fla., Ft. Pierce.—(School).—Petition is being circulated asking the St. Lucie County Board of Education to call an election to vote on \$40,000 Vero Dist. school bonds.

Fla., St. Petersburg.—(School).—Bids will be received until 2 P. M. Jan. 2 for \$30,000 of 6 per cent. \$1000 denomination bonds, dated Aug. 1, 1916; maturity \$1000 Aug. 1, 1921, and \$1000 annually thereafter. Address Board of Public Instruction Broward County, J. M. Holding, Secy.

Ga., Savannah.—(School).—Regarding the report that the Board of Public Education

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was considering the question of issuing bonds, Carleton B. Gibson, Supt., writes the Manufacturers Record that last spring a bond issue was voted, but on an injunction the Supreme Court has held that the registration was not legal, and the Board must wait until the State Legislature can amend the law. The issue will probably be again voted. Legislature meets in July, and an election cannot take place for three or four months after that.

Fla., St. Cloud—(Water, Sewer, Street, etc.).—\$114,000 of bonds have been purchased at \$122,816 and interest by G. B. Sawyer & Co., Jacksonville.

Fla., St. Petersburg—(Public Improvements).—City proposes to call an election to vote on \$150,000 of bonds for water-front improvements, sewer and sewage-disposal tanks. Address The Mayor.

Fla., Tarpon Springs—(Water, Sewer, Street, Parkway).—Election is to be held the latter part of Dec. to vote on \$15,000 of waterworks, \$15,000 sewer and \$7500 street and parkway improvement bonds. Address The Mayor.

Fla., West Palm Beach—(Road, Bridge).—Bids will be received until noon Dec. 19 by George O. Butler, Clerk Palm Beach County, for \$90,000 of 6 per cent. bonds special road and bridge Dist. No. 4. Further particulars will be found in the advertising columns.

Ga., Conyers—(School).—\$20,400 of bonds are voted. Address The Mayor.

Ga., Tignall—(School).—\$10,000 of \$500 denomination bonds are being offered for sale. Address E. W. Adams.

Ky., Ashland—(School).—The \$200,000 bonds recently voted will not be issued until Apr. or May, 1917. W. A. Manning is Clerk.

Ky., Burlington—(Street).—\$15,000 of 5 per cent. \$100 denomination bonds voted Nov. 7 will be offered for sale about Mch. 1. Dated April 1, 1917; maturity, April, 1937, to be called by lot after 5 yrs. at the option of the City Council. Address F. B. Arnold, Treas. W. E. Rash is Mayor.

Ky., Hindman—(Road).—\$90,000 of Knott County bonds have been sold. W. L. Davis is Clerk County Court, Cody, Ky.

Ky., La Grange—(Road, Bridge).—Bids will be received until Dec. 15 for \$50,000 of 5 per cent. 5-20-year \$100 to \$1000 denomination Oldham County bonds. Address Fiscal Court, Oldham County, S. E. DeHaven, County Judge.

Ky., Pineville—(Road).—\$105,000 of 5 per cent. 20-year Bell County bonds have been purchased at \$4500 premium by Well, Roth & Co., Cincinnati.

Ky., Williamsburg—(Road, Bridge).—\$100,000 of an authorized issue of \$250,000 of 5 per cent. 15-year Whitley County bonds have been purchased at \$5200 premium by E. H. Rollins & Sons, Chicago.

Ky., Winchester—(Water).—Bids will be received until 7.30 P. M. Jan. 5 for \$180,000 of 5 per cent. 30-year \$1000 denomination bonds. S. B. Tracy is City Clerk. (Recently noted.)

La., Alexandria—(School).—\$20,000 La-mourie Ward, Rapides Parish, bonds are voted. Address Police Jury.

La., Colfax—(Road).—Election is to be held in Road Dist. No. 8, Grant Parish, Jan. 2 to vote on \$150,000 of 5 per cent. 30-year bonds. W. A. Brownlee is Prest. and Miss H. E. Cameron, Clerk of the Police Jury.

La., Crowley—(Road).—Election is to be held in Road Dist. No. 1, Acadia Parish, Dec. 30 to vote on \$400,000 of 5 per cent. 30-year bonds. Address Police Jury.

La., Crowley—(Drainage).—Election is to be held in Acadia Parish Dec. 30 to vote on \$100,000 of 27-year bonds First Ward Drainage Dist., Acadia Parish. Wallace Dupont is Prest. and L. J. Chappuis Secy. of the Board of Drainage Comms.

La., Houma—(Water).—Bonds have been voted. Reuben Chauvin is Mayor.

La., Lake Charles—(Canal).—Election is to be held Dec. 27 to vote on \$250,000 of 5 per cent. 20-year bonds Calcasieu Navigation Dist. No. 1 for deepening the Intracoastal Canal. Geo. Lock is Prest. of the Dist.

La., New Iberia—(Sewerage).—Bids will be received until 7 P. M. Jan. 11 for \$90,000 of 5 per cent. 40-year serial bonds, dated Mch. 1, 1917. Chas. N. Provost is Secy. Board of Sewerage Comms. of First Sewerage Dist. Further particulars will be found in the advertising columns.

La., New Orleans—(Funding).—Bids will be opened at noon Dec. 14 for minimum of \$4,250,000 to maximum \$5,000,000 city funding bonds, 4 1/2 per cents. They are part of a \$9,000,000 issue voted to fund the city debt. T. Wolfe, Jr., is Secy. Board of Liquidation City Debt.

La., Winnfield—(School).—\$35,000 of 5 per cent. 10-year bonds Winnfield School Dist. are for sale. C. McGinty is Prest. Board of School Directors, Winn Parish.

Miss., Carthage—(Drainage).—\$10,000 of bonds of Standing Pine Drainage Dist. No. 1, Leake County, are to be sold Dec. 11. M. F. Wallace is Chancery Clk.

Miss., Lucedale—(Road).—\$100,000 of 5 per cent. George County bonds have been sold at a premium. Address County Judge.

Miss., Starkville—(Road).—Election is to be held in Beat 2 in Oktibbeha County to vote on bonds. Address County Comms.

Mo., Bowling Green—(Courthouse).—Bids will be received until 2 P. M. Jan. 9, by Arthur J. Ladley, Treas. Pike County, for \$100,000 of 4 per cent. 5-20-year \$500 denomination bonds, dated Feb. 1, 1917.

Mo., Carrollton—(Bridge).—\$100,000 of 5 per cent. 30-year Carroll County bonds defeated.

Mo., Liberty—(Road).—\$1,250,000 of bonds have been voted. Date for issuing has not been decided. Edgar Archer is County Clerk.

Mo., Newton—(Light).—Plans are reported being made to issue bonds. Address The Mayor.

Mo., Sikeston—(Street, Sewer).—\$15,000 of bonds recently voted have been declared illegal and another election is to be held Dec. 12. E. J. Malone is Mayor. (Recently noted.)

Mo., St. Louis—(School).—\$1,000,000 of 4 per cent. \$1000 denomination bonds of the \$3,000,000 recently voted will soon be offered for sale. Chas. P. Mason is Secy. and Treas. Board of Education.

N. C., Asheville—(School).—\$35,000 of 5 per cent. 20-year bonds Black Mountain School Dist., Buncombe County, are to be offered for sale. W. H. Hipps is Supt. County Public Schools.

N. C., Beaufort—(Water, Sewer, Street).—\$100,000 of 5 per cent. 30-year \$1000 denomination bonds have been purchased at par by Sidney Spitzer & Co., Toledo, O.; dated Oct. 1, 1916; maturity Oct. 1, 1946.

N. C., Mount Holly—(Sidewalk).—Election is to be held Dec. 18 to vote on \$5000 of 30-year bonds. W. T. Johnson is Town Clerk. (Recently noted.)

N. C., Morganton—(Road).—Five township issues, Burke County, aggregating \$125,000, have been purchased by G. B. Sawyers Co. Columbia.

N. C., Nashville—(School).—Election is to be held in White School Dist. No. 2, Bailey Township, Nash County, Dec. 17 to vote on \$3000 of 6 per cent. 20-year bonds. J. B. Roddie is Clerk Board of Comms.

Okla., Buffalo—(Water, Light, Sewer).—\$15,000 water, \$15,000 light and \$25,000 sewer bonds are to be sold. Address The Mayor.

Okla., Clinton—(Road).—Election is to be held in Custer County Jan. 15 to vote on \$800,000 of bonds. Address County Comms.

Okla., Kendall, P. O. Tulsa—(Water, Sewer, Park, Firehouse, Equipment).—Election is to be held Dec. 21 to vote on \$45,000 water, \$50,000 sewer, \$15,000 park and \$15,000 firehouse and equipment bonds; C. W. Johnson

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OPPORTUNITIES FOR BUSINESS

Read the list in the Construction Department of this issue of new companies being started in the South. Can't you supply them something?

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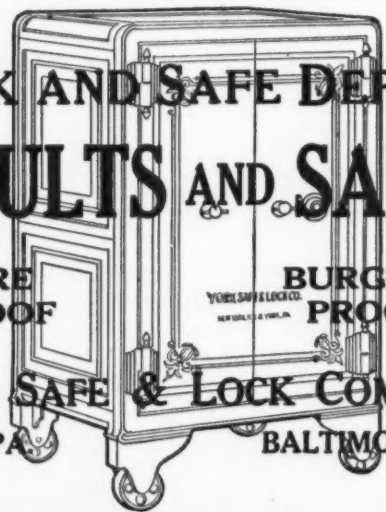
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is Prest. Board of Town Trustees and Geo. H. Coe Town Clerk.

Okla., McAlester—(Road).—Election will probably be ordered next spring in Pittsburg County to vote on bonds. Address County Clerk.

Okla., Mountain Park—(Light).—\$4500 electric-light-plant bonds are voted. J. P. Fann is Prest. of Board of Town Comms.

Okla., Pawhuska—(School).—Bonds defeated.

Okla., Perry—(Courthouse).—\$100,000 of bonds are voted. Address The Mayor.

Okla., Stillwater—(Courthouse, Jail).—Bids received until 10 A. M., Dec. 4 by Board of Comms., Payne County, G. W. Lewis, Chrmn., for \$100,000 of 5-20-year \$1000 denomination bonds.

S. C., Conway—(Water, Sewer).—\$30,000 of 5 per cent. 20-40-year bonds have been purchased at \$1275 premium by Robinson-Humphrey-Wardlaw Co., Atlanta, Ga.

Tenn., Chattanooga—(Paving).—Bids will be received until noon Dec. 9 for \$368.64 of Paving Dist. 199 and \$701.72 of Paving Dist. No. 3 6 per cent. bonds, dated Nov. 1, 1916. Jesse M. Littleton is Mayor.

Tenn., Alvin—(School).—\$18,000 bonds were recently voted. Address Board of Education.

Tenn., Amarillo—(School).—\$50,000 of 5 per cent. 10-40-year \$1000 denomination bonds have been sold. S. P. Newbold is Secy. Board of Education.

Tenn., Austin.—Bonds approved by Attorney-General: \$7500 of 5 per cent. 10-40-year bonds Grand Saline Independent School Dist.; \$1000 Dist. 7 and \$1200 Dist. 14 of 5 per cent. 10-20-year Tom Green Common School; \$27,500 Wharton County Road Dist. No. 2; \$700 Callahan County Common School Dist. 33; \$90,000 Wichita County bridge; \$135,000 Dist. 3, \$35,000 Dist. 12, \$25,000 Dist. 14 10-40-year 5 per cent. Fannin County.

Tenn., Beaumont—(Water, School, Wharf).—\$230,000 wharf, \$150,000 school and \$100,000 water 5 per cent. bonds have been purchased at \$39,000 premium by Stacy & Braun, Toledo, Ohio.

Tenn., Crockett—(Sewerage).—\$40,000 of warrants will be issued about Dec. 15. J. H. Painter is Mayor.

Tenn., Dallas—(Levee).—\$48,000 of 6 per cent. bonds Dallas County Levee Improvement Dist. No. 1 are being offered for sale. Dated Nov. 10, 1916; maturity, April 10, 1918, to 1925, inclusive, and thereafter two of said bonds, according to consecutive numbers, payable on April 10 of each successive year until all are paid. Quentin D. Corley is County Judge.

Tenn., Denton—(Road).—The \$1,000,000 of Denton County bonds, to be voted on Dec. 21, are 10-40-year 5 per cents. Fred M. Bottorff is County Judge.

Tenn., Denton—(School).—\$30,000 of 5 per cent. 10-40-year schoolhouse-improvement bonds No. 4 have been purchased at par and accrued interest by H. M. Cutter & Co., Boston, Mass.

Tenn., Eastland—(Road).—Election is to be held in Road Dist. No. 1, Eastland County, Dec. 30 to vote on \$200,000 bonds. Address County Comms.

Tenn., Houston—(Dock, Sewer).—Bids will be received until noon Jan. 10 for \$325,000 of 8-40-year dock and \$360,000 of 5-40-year average and \$50,000 of 30 1/6 average sewer bonds. Ben Campbell is Mayor.

Tenn., Llano—(School).—\$6000 of bonds are voted. Address School Board.

Tenn., Lockhart—(Road).—\$5000 Delhi Dist., Caldwell County, bonds are voted. Address County Comms.

Tenn., Munday—(City Hall).—\$15,000 bonds are voted. Address The Mayor.

Tenn., Quitman—(Road).—The \$150,000 of Road Dist. No. 6, Wood County, bonds recently voted are 5 per cents.; denomination \$750; dated Jan. 1, 1917. R. E. Bozeman is County Judge.

Tenn., Seymour—(Warrants).—\$23,000 of 6 per cent. warrants have been purchased by J. L. Arlitt, Austin, Tex.

Tenn., Tyler—(School).—Bids will be received until 10 A. M. Dec. 20 by F. H. Merrill, Jr., for \$85,000 of 5 per cent. 1-40-year \$1000 denomination bonds, dated Jan. 1, 1917.

Tenn., Wheeler.—\$50,000 of Road Dist. No. 1, Wheeler County, road bonds, recently voted, are 10-40-year 5 per cents.; denomination

\$1000; dated Jan., 1916. S. D. Miller is County Judge.

Tex., Wichita Falls—(Cemetery).—Bids will be opened Jan. 11 for \$15,000 of 5 per cent. 10-40-year bonds. V. G. Skeen is City Clerk.

Va., Norfolk—(City Bonds).—R. M. Grant & Co., New York, were the highest bidders at 99.17, or \$577,169.40, for the entire issue of \$582,000 of 4 per cent. bonds.

Va., Portsmouth—(Refunding).—\$200,000 of refunding bonds have been purchased by Mayer & Co., Cincinnati.

Va., Portsmouth—(School).—\$182,000 of bonds are to be issued in near future. L. P. Slater is City Clerk.

Va., Salem—(Road).—Election is to be held in Cave Spring Magisterial Dist. of Roanoke County to vote on \$125,000 of bonds. W. W. Moffett is County Judge and Chas. D. Dent, Clerk.

W. Va., Parsons—(Road).—Elections are to be held in Tucker County Dec. 29 to vote on 5 per cent. \$100, \$500 and \$1000 denomination bonds as follows: Davis Dist., \$38,000; Dry Fork Dist., \$60,000; Fairfax Dist., \$150,000. H. F. Colebank is County Clerk.

FINANCIAL NOTES

The Consolidated Gas, Electric Light & Power Co. of Baltimore has sold to Alexander Brown & Sons of Baltimore, Brown Bros. & Co. of New York, Lee, Higginson & Co. and Jackson & Curtis of Boston \$4,800,000 of its 4 1/2 per cent. general mortgage bonds, part of which were held in the treasury of the company and part held as collateral for debenture stock owned by English investors. This, it is stated, completes the new financial plan announced some time ago. The stock which part of the bonds replace bore 5 per cent. interest.

The Banking Department of the State of Tennessee reports for the 404 State banks and 13 branch banks that a summary of their statements as of Oct. 11, 1916, shows their total resources were \$116,995,046, including loans and discounts at \$73,646,552. Total deposits were \$85,705,327.

Book Reviews.

Bridge Engineering. By J. A. I. Waddell, C.E., B.A.Sc., M.A.E., D.Sc., D.E., Mem. American Society of Civil Engineers; senior partner of Waddell & Son, consulting engineers, Kansas City, Mo. Published by John Wiley & Sons, Inc., New York. Cloth-bound. Two volumes. 2177 pages. Price \$10.

This exhaustive volume on bridge engineering is the outgrowth of a book on the subject entitled "De Pontibus," first published 18 years ago by the same author.

Recognizing the need for a revised and complete edition, Dr. Waddell, in compiling this new work, has aimed to give to his readers information concerning every branch of bridge work which he has accumulated during a practice of 40 years. He has endeavored to make the work useful to all engineers engaged either directly or indirectly in the designing and building of bridges, and especially to younger engineers, and has included explanations of the principles of designing and many practical hints which come through extensive experience.

Covering as it does every phase of bridge engineering work extending from historical references to the modern ideas of the present day, the author has aimed to cover his subject in a manner that will give his work interest not only as a reference book, but also make it of use as a textbook and guide to those engaged in bridge engineering work.

The two volumes are replete with illustrations, tables and diagrams, and contain an extensive glossary of technical terms used in all branches of bridge work and allied construction. A classified index for quick reference to various phases of the work is included.

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

Office and Bank Building for Sale.

The ten-story concrete and steel office and bank building of the Knoxville Banking & Trust Co., Knoxville, Tenn., will be offered for sale on the premises December 21, 1916. Full information regarding terms of sale, etc., will be furnished by John W. Green, receiver.

Going After Southern Business.

The Edward Valve & Manufacturing Co., manufacturer of high-grade valves, fittings and specialties for steam, hydraulic, ammonia, etc., 343 South Dearborn St., Chicago, Ill., has opened a Southern office in the Chandler Bldg., Atlanta, Ga., in charge of E. C. Tracey.

Opens Florida Branch.

For the purpose of buying and selling bonds of municipalities, counties and districts throughout the State of Florida, the bond buying house of Terry, Briggs & Co., Toledo, Ohio, has opened an office in Jacksonville under the management of Wimberly McLeod. All correspondence should be addressed to Box 108, Jacksonville, Fla.

In New Branch Building.

Philadelphia branch of the Standard Scale & Supply Co., Pittsburgh, Pa., has been removed to its new quarters at 523 Arch St., where a large stock of "The Standard" scales, concrete mixers, pumps, hoists, compressors, gasoline and oil engines, trucks, harrows, coal dealers' supplies and ice tools will be carried at all times, so that prompt service can be rendered its customers.

Elevator Service for New Apartment.

The modern five-story apartment building to be erected by C. V. York and M. W. B. Drake, Jr., at Raleigh, N. C., will have installed by the Westbrook Elevator Co., Danville, Va., one electric push-button passenger elevator and one dumbwaiter. The Westbrook company makes a specialty of automatic push-button passenger elevators for apartment-houses, hospitals and residences.

Raise Wages 10 Per Cent.

Effective from July 1 this year, the Broderick & Bascom Rope Co., St. Louis, Mo., has granted a 10 per cent. bonus and increase in salaries of employees in all departments, including those in the New York and Seattle branches. The announcement was made by the firm as a Thanksgiving surprise to its force. The increase was made because it was decided by the company that the increasing cost of living had necessitated a readjustment of wages.

Opens Manufacturers' Agency.

Meldrum Thomson, formerly of the Carnegie Steel Co. of Pittsburgh, and until recently with the Pittsburgh Testing Laboratory at Birmingham, has opened an office in Savannah, Ga., and will cover the Carolinas and Southeastern Georgia, as a manufacturers' agent, carrying some of the leading lines of building and paving materials. Mr. Thomson is interested in getting in touch with other firms manufacturing similar lines to act as their representative in the above mentioned territories.

Completing New Pottery Plant.

Beginning in a small way at Hamilton, Ohio, about 16 years ago and enlarging from time to time until the Hamilton factory was outgrown, The Sanitary Manufacturing Co. has constructed and has moved to its new plant at Kenova, W. Va., which comprises about 3 acres of floor space. Machinery is now being installed and an American Dresser tunnel kiln, 250 feet long, is being constructed. The Sanitary Manufacturing Co. controls the John H. Davis patents for pressing of dry clay of all vitreous china articles, and manufactures the Hamilton "Gem" line of water closet combinations in over 100 styles, which are in use in all types of structures from bungalows to sky-scraper office buildings.

Road Machinery Companies Consolidate.

A merger of the Buffalo Steam Roller Co. of Buffalo, N. Y., and the Kelly-Springfield Road Roller Co., Springfield, O., has taken place. The name of the new company will be the Buffalo Springfield Roller Co., with main office and factory located at Springfield, O. The combined businesses of the two companies will constitute what is claimed to be the largest organization in the world manufacturing road rollers and hauling machinery exclusively. A complete line of Buffalo Pitts rollers in both macadam and tandem types and at weights ranging from 2½ to 29 tons will be manufactured; also a complete line of Kelly-Springfield gasoline and steam rollers in all types will be built by the new company.

Convention of Blaw Salesmen.

Over sixty men were present at the Annual Sales Convention of the Blaw Steel Construction Co., held November 17 and 18 in Pittsburgh. As last year proved by far to be the most prosperous in the company's history, and indications point already that next year will greatly exceed it, great enthusiasm was evident at all times. The morning of the 17th was devoted to a tour of the plant. Mr. McArthur, chief engineer; Mr. Hawley, general superintendent, and Mr. Loxterman, manager of the service department, spoke briefly on new appliances and new methods in concrete form construction worked out during the past year. The new Blaw bucket was the topic in the afternoon, as well as on the following forenoon. The many advantages of the Blaw bucket were brought home in very telling fashion by Mr. McWhirk, who is in charge of the bucket department. As has been the custom in the past, the convention ended with a banquet at the Concordia Club.

Locates Southern Branch at Birmingham.

Fiske & Co., Inc., of New York and Boston, manufacturer of "Tapestry" and "Fisklock-Tapestry" brick, has opened a Southern office at 1501 Jefferson County Bank Bldg., Birmingham, Ala., with Henry J. F. Ludeman in charge as Southern manager. The office was established to handle the demand of the Southern trade for the "Fisklock" brick, which is being manufactured for the first time in the South at Lovick, Ala., and extensive plans have been laid by the company for a large campaign for Southern business. "Fisklock" brick has been sold extensively in the North and East for the past three years, having been put on the market there in 1913. That this product will meet with the same success that it has in the North and East is evident from the interest it has aroused among architects and engineers. There is much construction in progress in the South, and the attention of the builders has been turned to the features of "Fisklock" in its advantages as a labor-saving material as well as its insulating and waterproof qualities.

Secures Manufacturing Rights.

Rights for the manufacture of Bolcourt deep well pumps have been secured by the St. Louis Well Machine & Tool Co., St. Louis, Mo. The Bolcourt pump is a noiseless double-acting deep well pump, giving a continuous discharge. The high efficiency of this pump is said to be caused by its continuous discharge, which prevents the column of water from coming to rest at any time during its operation; by the balance of the pump and rods and by the elimination of friction due to the use of roller bearings, the oiling system and the fact that no crosshead guides are needed. All parts are accessible for inspection and adjustment, and it is not necessary to move the pump when pulling the cylinder and rods. One of the principal features of the pump is the practical elimination of the danger of breakage of the pump rods. This firm still manufactures the St. Louis crosshead pump jack, a single stroke pump where high efficiency

TRADE LITERATURE

Lubrication of Pneumatic Tools.

Chicago automatic oilers, manufactured by the Chicago Pneumatic Tool Co., Fisher Building, Chicago, Ill., are described in a pamphlet, issued by the company, which explains the importance of proper lubrication of pneumatic tools. This pamphlet also tells of the merits of Airoilene grease, prepared especially for use in "Little Giant" drills, and describes and illustrates "Little Giant" grease machines as made by the company.

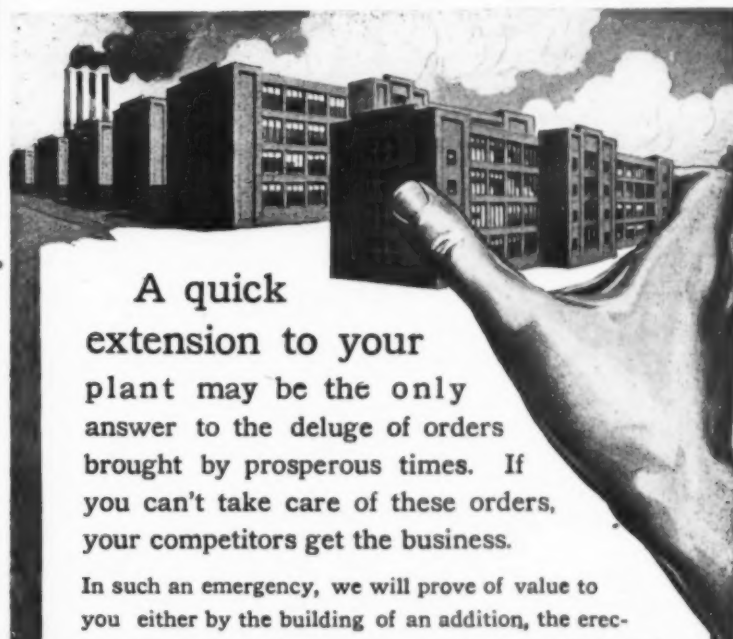
Wire Reinforcement for Concrete Highways.

Electrically welded wire fabric, manufactured by the Clinton Wire Cloth Co., Clinton, Mass., is claimed to be an ideal mesh reinforcement for all types of concrete roads and pavements. The company has issued a booklet describing the manufacture of this fabric and points out the features which commend it for use as a concrete reinforcing material. Illustrations showing the method of applying Clinton electrically welded wire in concrete road work, together with views of finished concrete roads and pavements that have employed this wire in their construction, are given in the booklet.

Terra-Cotta in Reconstruction.

The November number of Atlantic Terra-Cotta, issued by the Atlantic Terra-Cotta Co., 1170 Broadway, New York, contains several illustrations showing the application of Atlantic terra-cotta in the renovating and reconstruction of buildings, and points out the advantages of using this material for such a purpose. The illustrations are "before" and "after" views which contrast the old buildings with their up-to-date appearance after they have been remodeled with Atlantic terra-cotta. Southern branch of the Atlantic Terra-Cotta Company is located in the Third National Bank Building, Atlanta, Ga., under the name of the Atlanta Terra-Cotta Company.

[Continued on Page 102.]



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Leaves CINCINNATI	8.10 A. M.
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Between Baltimore, West Point, Richmond every night in the year except Sunday night. Our big new steamers "City of Richmond," "City of Baltimore," "City of Norfolk" and "City of Annapolis" furnish the very best accommodations. Good meals, rooms with bath and all the comforts of home.

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